

THE THREATENED DESTRUCTION OF PHILÆ—A PROTEST.

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FOR a long period engineers of various nations have been studying the creation in Egypt of large reservoirs where a part of the surplus water of the Nile flood could be stored, so as to prevent the great loss which takes place when the summer-Nile is exceptionally low, and to increase the production of the country by the substitution of perennial irrigation for inundation in Upper Egypt, as well as to extend the area of cultivation by the reclamation of the vast marshes which now cover one half of the Delta. These studies have led to several projects, upon the merits of which I have no opinion to express. The only one which has to be considered here is that based on the construction of the so-called Dam of Assouan, which practically would be built at the top of the First Cataract, just below the Island of Philæ. It is certain that this dam finds great favour with the engineers employed by the Egyptian Government from their especial point of view. According to the opinion of the author of the project, Mr. Willcocks, and of Mr. Garstin, the head of the Irrigation Department in Egypt, a dam at Assouan would be far the cheapest, the most easy to construct, the safest as regards the quality of the building material and of the rock upon which it would rest, of all the dams proposed between Gebel Silsileh and Wadi Halfa, and would best fulfil the various conditions required for a dam which is to resist an enormous weight of water. But it has this very serious fault, upon which we cannot insist too strongly. It is to be placed below the Temple of Philæ; and, as Mr. Garstin himself says, "every dam established on the "First Cataract will immediately drown a great part of the temple during several months." Moreover, if the height of the dam were raised by three metres, in order that its effect might be felt on the whole surface of Egypt, the inundation produced by the reservoir would extend as far as the villages south of Korosko.

It is against this wholesale destruction of Philæ and its ruins, and also of many temples and cemeteries above, that I should like to record my most emphatic protest. In so doing I know that I have with me the unanimous assent of many learned bodies in Great Britain and abroad, and of the friends of Egyptian antiquities, who, both in Europe and America, have already spoken in most distinct words. A few remarks on the Temple of Philæ will show how great is the interest, and how great the value of the monuments thus doomed to perish.

Every traveller who has been up the Nile has been struck by the remarkable beauty of the Island of Philæ. Hidden among majestic granite rocks, whose layers, blackened by time and weather, look like the remains of gigantic buildings, it suddenly appears with its garland of green palms bending gracefully over the river. The history of the temple of Philæ has not yet been written. We do not know the name of the king who laid its first stone. However, considering that there are tombs at Assouan belonging to the Sixth Dynasty, and that the kings of the Twelfth marched their troops into Nubia and built temples and fortresses even above the Second Cataract, it may be safely asserted that the site of Philæ was occupied at a

period of remote antiquity, and that the temple we now see is only the successor of an older one. As it is, nearly the whole of the constructions belong to the Greek and Roman epochs, except a building erected at the southern entrance by King Nectanebo, the last of the native Pharaohs. The interest of the temple lies in the inscriptions which cover its walls, but perhaps even more in its architecture. A complete description of the edifice is required to show how the general idea of an Egyptian temple has been modified in accordance with the site where it was erected, and how well temple and site fit together and form a perfectly harmonious whole.

Beginning at the southern end, we pass first through the most ancient part of the building, a rectangular area enclosed by a colonnade of sixteen columns bearing an architrave and a cornice. There are no traces of a ceiling; the space between the columns is walled up to half the height of the shafts; the capitals have the form of an open lotus-flower, whence rises a Hathor head, which takes the place of the abacus. Light and air played freely in that small construction, which at first sight seems not to have been finished. In front were two small obelisks of sandstone; at a short distance a staircase, leading towards the river. This building has been copied, with slight changes on the eastern side, by the Emperor Tiberius. All travellers must remember the elegant pavilion, at the foot of which they leave their boat when coming from Assouan: it differs from that of Nectanebo by its size; it is larger and nearly square, and in the capitals the Hathor head is replaced by a high abacus.

What was the purpose of these two buildings, which are found nowhere else in Egypt? They have both been called temples, which they evidently are not. I am inclined to believe that they were the halls where the processions formed after they had landed close by. I here entirely agree with Ebers, who first advocated this view. The processions played an important part in the festival of the old Egyptians. We know that great ceremonies were performed at Philæ, which, up to a very late date, was a famous place for pilgrimages, because the tomb of Osiris was supposed to be there or in the neighbourhood. It was in this southern hall that the priests coming from Nubia, and bearing their offerings, made their last preparations before entering the temple. For this reason it was built close to the river, whence an avenue led to the great pylon. Subsequently, as is often the case in Egyptian temples, the avenue was turned into a peristyle court, which extended from the pavilion to the pylon. The Emperor Caligula began, but for some unknown reason did not finish, it. The court is irregular, the two long sides are not parallel. Owing to the form of the island, it was necessary that the western side should follow the river. As for the eastern colonnade, perhaps the wish to preserve some old buildings may have determined its direction. The variety of capitals is marvellous.

I have dwelt thus long on the description of that part of the edifice in order to show how disastrous would be its destruction, or even the realisation of the idea put forward by some of the advocates of the Assouan barrage. They propose to rebuild the temple on the adjacent island of Biggeh; I am not sure that this remedy is not as bad as destruction. Philæ was planned and built in conformity with the shape of the island. Every one of its parts has its purpose, its *raison d'être*. In case the temple were removed, what would become of the two pavilions and of the court of Caligula? Evidently Biggeh has not the same form as Philæ. What would become of the long supporting wall crowned by Caligula's colonnade and ending at Nectanebo's pavilion? Would the court be rebuilt in its irregular form, or would the two colonnades be parallel? In the first case, supposing the irregularities of the ground not to be the same, what would be the appearance of the new building? What would be the significance of the pavilions if they were placed away from the river, or not at one of the landing-places through which the temple was approached? Let the site of the temple be changed, and the

greatest part of the interest of the edifice will be gone. It will no more be the Temple of Philæ. It will be like a plant uprooted from its native soil, or like a huge museum-specimen which might as well be carried anywhere.

Beyond what I called the first court we reach the actual temple, in which we recognise the usual division, the first pylon giving access to another peristyle court; afterwards the second pylon, the hypostyle hall—called by Strabo the *pronaos*—and the sanctuary with its adjoining chambers. I need not mention the great number of valuable inscriptions which would be lost for ever. Most of them are of a religious character, referring to the worship of Osiris, Isis, and Horus; but there are also many of a different kind. There are important lists referring to the geographical division of the country; others are astronomical; or they describe the ritual and the objects which were employed in the ceremonies, the preparation of some of the substances which were used in the worship, the sacred books, the purifications which the priests had to undergo. Generally speaking, we find there all the kinds of texts in which the Ptolemaic temples are particularly rich.

But what I should like to insist upon is the great loss that Philæ would be to Architecture and to the student of Egyptian art. In no other temple are some of the characteristics of Egyptian building so strongly marked as at Philæ—I mean the taste for irregularity, the disregard of symmetry and of the straight line in the plan and direction of the temple. The two pylons are not parallel to each other, their doors are not in a line. They have between them a peristyle court which is not rectangular, the western side being much longer than the eastern. The axis of the temple is a broken line which nearly follows the curve of the island. Besides, the orientation differs from the great majority of the Egyptian temples. It looks due south towards the direction from which Horus was supposed to have come when he conquered Egypt. Evidently Philæ was intended to be the great sanctuary of the province of Nubia, to which it belonged.

There are other curious points to be noticed in the construction, and a careful study would probably reveal a good many more. After passing the first pylon, on the western side, we find a small temple, supposed to be the birthplace of Horus, where the god is represented suckled by his mother Isis. The capitals of the columns have also Hathor heads. In an open place like Karnak a small sanctuary depending on the large one, and opening on one of its courts, would be turned the other way; it would be perpendicular to the axis of the court. Here it is parallel, obviously because there was no room to build it in the usual way. If we look for the constituent elements of the Temple of Philæ, we shall find the same plan as in an ordinary temple, but the nature of the ground compelled the architects to admit some variations which are easily explained, although they seem considerable at first sight.

In regard to art, although the sculptures are not to be compared with those of the eighteenth dynasty, some of them are very fine, and in the inner chambers their state of preservation is perfect, even to their colours. The columns, some of which possess remains of their original paint, are very good specimens of the influence that Greek and Roman ideas exerted over Egyptian architecture. The Greeks and Romans could not break through the fixed and immutable laws which had ruled the construction of Egyptian temples for many centuries, but within those narrow bounds they introduced more variety.

These few facts may give an idea of the irreparable loss which science and art would suffer if the Temple of Philæ were swamped by the water of the Assouan Reservoir. Who knows whether the loss would not be even greater than we think? Nobody can say what may be hidden in the soil of the island, under the Coptic houses, or in the foundations of the temple, and what treasures would perhaps disappear without any hope of recovery. This danger exists, not only for Philæ, but for all the land along the river as far as Korosko. Several

other temples would share the fate of Philæ, such as Dakkeh and Kalabshah,* where are found curious sculptures of Roman times and a great number of demotic inscriptions, some of which, the so-called meroitic, have not yet been deciphered. Nubia has never been well surveyed, still less excavated; and all that is still buried in the ruins of the temples and in the cemeteries, which have hardly been touched, would certainly disappear.

* By the courtesy of the Executive Committee of the Society for the Preservation of the Monuments of Ancient Egypt, the Institute is permitted to publish authentic particulars of works of archaeological and artistic interest likely to be submerged by a reservoir with the dam on the First Cataract and known as the Assouan Dam. These particulars form the Appendix to a Pamphlet, which the Society is about to widely circulate, entitled *Irrigation Reservoirs in the Valley of the Nile*, as follows:—

The Island of Philæ.—Upon this stands the temple of Isis, the centre of the group of buildings which date from the time of Nectanebo (fourth century B.C.) to that of Diocletian (end of third century A.D.). Among these buildings are the long corridor of columns leading from the small temple of Nectanebo to the pylon of the temple of Isis; the kiosk, or Pharaoh's Bedstead, of the time of Tiberius; the small triumphal arch of the time of Diocletian; the quay walls with which the island is surrounded, and which are in part older than any of the existing temples, being partly Ptolemaic and partly Roman. When the reservoir was full, the water would submerge everything. The temple walls are not only covered with sculptures, still in excellent preservation and retaining much of their original colour, and with hieroglyphic inscriptions, but are also covered with *graffiti* left by pilgrims to the shrine, of extreme historic value. There are also numerous Coptic remains.

Inscriptions on the Neighbouring Rocks.—These date back to the eleventh and twelfth dynasties. They are in most cases at so low a level that they would be submerged by this reservoir.

Temple of Biggeh.—On this island are the remains of a temple older than any on the island of Philæ. It is supposed that Biggeh was a sacred place before Philæ.

Temple of Debüt.—A temple stands here still well preserved, except in parts which were shaken down by an earthquake in 1868, a bad omen for the proposed dam. It is surrounded by a wall of masonry, in which are three large doorways leading directly to the façade. The remains of a great approach from the river are still in fair preservation. The whole stands on river deposit, and would fall to pieces as soon as submerged. The temple is of the time of the Ptolemies, and bears on its walls the name of one of the dynasty of native kings who reigned in Nubia during the period of the Ptolemies and the Roman emperors.

Gertassa.—Here are the remains of a small Ptolemaic temple. The basement wall on which it stands would be submerged, and would soon yield. Close by are large quarries of fine sandstone. These contain a vast number of inscriptions and *graffiti*, chiefly Greek, dating from Roman imperial times. From this quarry the stones for Philæ were taken. South of the quarries are walls of masonry inclosing a large area. A temple stood within. The gateways are ingeniously arranged for defence. In the walls stairs have been constructed leading to the top for the use of the garrison. This work is probably Roman.

Tafel Taphis of the Itinerarium Antonini.—Here stands a small but very perfect temple, and about it are the remains of several houses of stone, almost unique. They are of late Ptolemaic or Roman work.

Temple at Kalabshah (Talmis).—This is the most magnificent structure in Nubia. It retains its quay walls, stairs of approach, and vast surrounding walls of masonry in a condition more complete than any other temple in Egypt. A pylon wider than the front of Westminster Abbey stands on the upper terrace, and leads into the great courtyard

and temple. The site was sacred in the eighteenth dynasty. The existing structure is Roman, the builders having utilised in part the earlier Ptolemaic edifice. The walls, with their sculpture, are in a very perfect state, the roof only having fallen in. In the courtyard are a vast number of *graffiti*, many of which have yet to be cleared and deciphered. They extend down to about A.D. 540, when Silko, the Christian King of the Nobades, defeated the Blemmyes, and recorded his exploit on the temple walls.

Dendur.—Here is a very perfect little temple of Ptolemaic times, with the interior covered with wall sculptures and inscriptions, which are of peculiar interest. It stands upon a very well-preserved terrace. To the north lie the remains of the ancient town.

Koshennch.—Here are the remains of a great rectangular fort of sun-dried bricks, which formed one of a chain of ancient forts through Nubia, extending to Semneh, south of the second cataract. The external dimensions are 304 feet by 252. The walls are 12 feet thick. The remains of a temple, probably of the nineteenth dynasty, can be traced within the enclosure, whilst numerous ancient brick buildings, probably of the same date as the fort, lie around outside.

Dakkeh (Pselchis).—This is one of the best preserved temples in Nubia. The pylon is absolutely perfect. The temple itself is covered with sculptures and inscriptions. The cartouches of Thotmes III. and Seti I., taking us back to the eighteenth dynasty, have been found. The existing temple is chiefly the work of the native king Ergamenes, and also of the Ptolemies and Roman emperors.

Kubban (Contra Pselchis).—Opposite Dakkeh stands the great brick fort of Kubban. This great structure is of ancient brickwork, with the walls 18 feet thick, and in parts 25 feet high. Names of kings of the twelfth dynasty have been found immediately to the south, and the ruins of the temple within the area of the walls seem to be of the eighteenth or nineteenth dynasty. The fort commanded the road to the gold mines. With the exception of the walls round the city of El Kab, Kubban is the most complete fortress north of the second cataract.

Korti.—Here are remains of an ancient city with masses of pottery.

Muharragah (Hierasucaminos).—Here are ruins of a temple of late date. On the walls are many *graffiti* in Greek, and hieroglyphic sculptures and inscriptions yet to be deciphered.

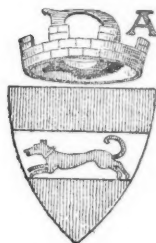
Eleseyih and Anibeh.—The waters of the reservoir would extend to Korosko if the dam be constructed at Philæ. They will extend further south, at least to Anibeh, if the dam be constructed at Kalabshah. In this event the fort and ancient town opposite Eleseyih will be submerged, and probably the rock excavation at Eleseyih itself; but the chief loss would be the great mass of ancient tombs at Anibeh. Here are still standing brick pyramidal tombs probably of the twelfth dynasty, some retaining within them their ancient wall painting. Graves under cairns, or surrounded by rings of stone, are numerous.

The welfare of Egypt and its inhabitants, the chief purpose of the engineers, ought obviously to be the paramount consideration. If the Assouan Reservoir is likely to be a great boon to the nation at large, art and archæology must remain in the background. But even were the serious objections against the work itself, and the present conflict of opinions as to its results, victoriously silenced, we have a right to ask that, if there is any alternative, preference should not be given to a scheme which would lead to an act of gross vandalism; and that economy should not be practised at the cost of some of the finest and most precious historical monuments of Egyptian art.

EDOUARD NAVILLE.

Geneva, 15th August 1894.

DAMME, A CITY OF THE NETHERLANDS. BY J. TAVENOR PERRY [A.].



ARMS OF DAMME.

DAMME, although now but a deserted and insignificant little village of West Flanders, once played a leading part in the history of the Netherlands; and the public buildings which yet remain within its ruined fortifications attest to the past importance of the place and to the wealth of its merchants. It was founded in 1178, and it owed its origin to a vast inundation which in that year spread the waters of the Zwin over so large an area of country that it menaced Bruges with destruction.* Under Count Florence III. of Holland a thousand men, Zealanders and Frisians, all experts in dyke-building, soon repaired the breaches, and the legend runs that whilst doing so a dog, left by the floods on a slight eminence, so disturbed the labourers with its howls that they cast it with the earth into the last hole they had to fill up, and the dyke was known henceforth as the Hondsdam, the Dyke of the Dog. At this point the new town of Damme was founded, and a dog appears upon its shield of arms, and surmounts the fleche of its Halles.

The Zwin, now nearly silted up, was a great landlocked sheet of water formed by the river Scheldt, and was the most important harbour on the west coast of the Netherlands. In it gathered some of the early fleets of the pirates which harassed the English shores; into it retired the Danes in 883 after they had been defeated by King Alfred, and from it they attacked Ghent; † therein, by Ysendyke, lay the ships of the great Earl Godwin, and thence he made his frequent attacks on England during the period of his exile; and on the waters of the Zwin was fought the first great naval battle between England and France, when Edward III. destroyed the French fleet.‡ The position selected for the site of the new town, at the end of a creek of the Zwin and within three miles of Bruges, made it the port of the Brugeois, and it became the landing-place of all the illustrious visitors to that city from the west or from the ports on the Scheldt. The history of the first hundred years in Damme was uneventful, but it must have grown rapidly in importance, as the foundations of its great church were laid during that period, and in 1218 it was sufficiently wealthy to tempt Philip Augustus to attack and pillage it; but the period of its greatest importance commences with the establishment of the Hansa Comptoir in the town in 1240. In the following year Joan of Constantinople renewed the original charter granted to the town in 1180 by Philip of Alsace, and confirmed the burghers in all their privileges; and a second charter, granted the same year, provides that they may erect a hall for the display of their goods for sale. But whilst granting such freedom for the purposes of trade, it is provided—and this shows the great

* *Histoire de la Ville de Damme*, by L. Maquet. Bruges, 1856.

† *The Anglo-Saxon Chronicle*. Edited by J. A. Giles. Lond. 1849.

‡ *A Short History of the English People*, by John Richard Green. Lond. 1878.

influence already acquired by the merchants—that no artisan shall be eligible for election as an alderman unless he has been admitted to the Hansa of London (L. Maquet). During the next hundred years the prosperity of Damme was at its height; in 1249 Margaret of Constantinople founded there a hospital (still in existence) for the poor and infirm, and in 1253 she granted to the foreign merchants trading in the town, at the request of Roger of Lübeck and Jordan of Hamburg, several special privileges and exemptions. It was in Damme, during the wars of Edward III. with France, that the deputies of Flanders met his envoy in 1342, when they refused to support their Count Louis of Nevers in his alliance with the French King; and here Hugh of Hastings disembarked from twenty ships in 1346 to assist Jacop van Artevelde and the Gantois.

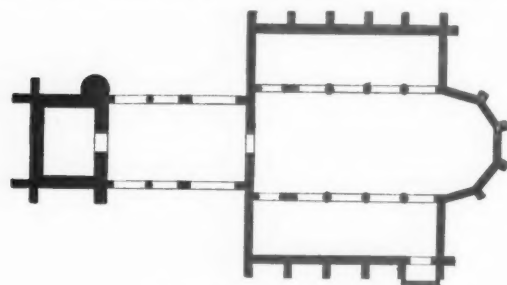


FIG. 1. — NOTRE-DAME, DAMME.

In 1367 came a great storm and flood, when a great part of the town of Damme disappeared in the inundation, and the gradual retirement of the waters of the Zwin began. It afterwards suffered much in the civil wars, and was captured in 1384 by the Gantois under

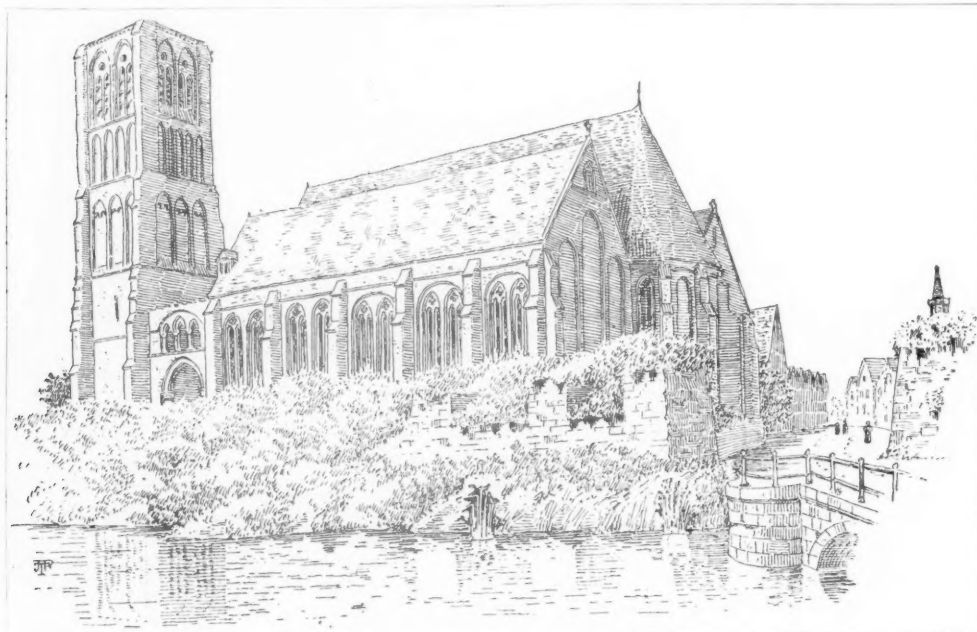


FIG. 2. — NOTRE-DAME, DAMME.

Ackerman. But although the navigation of the Zwin by Sluus became yearly more difficult and the harbour almost disappeared in the sands, the value of Damme as a strategic position in reference to Bruges and Ghent maintained its great importance, and to this fact and to the wealth of its burghers must be attributed the considerable building operations of the middle of the fifteenth century, of which the evidences remain to this day. It was during this

period that Margaret of York came hither from Sluus in 1468 with her brother Edward IV. for her marriage with Charles the Bold. This was perhaps the last brilliant event the town witnessed, and its own decay with the increasing importance of the neighbouring Hansa towns of Aardenburg and Sluus went on apace; but we find that it retained sufficient strength or value to merit the attack of Marlborough in his Flemish campaign, and in 1716 its fortifications, some portions of which are still left, were destroyed.

Of the buildings erected in the days of its splendour, except a few brick houses, only three survive, but two of these are of great interest. The church of Notre-Dame [figs. 1 and 2] belongs to two epochs: the earlier portion, which consists of a nave, transepts, and a western tower, may be contemporary with the foundation of the

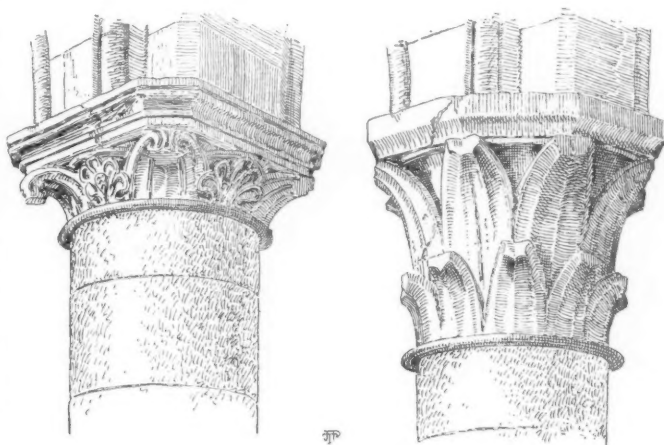


FIG. 3.—CAPITALS IN NAVE OF NOTRE-DAME, AARDENBURG.

town; but the nave is now roofless, and was burnt in 1578 by the troops of the Prince of Orange. The arcades and triforia are transitional in character, built of Tournay stone, with carved capitals, but the tower is mainly of brick, with a good deal of stone used in its lower parts. The eastern portion has three lofty aisles of equal height, with cylindrical shafts of Tournay stone; the choir terminated with a polygonal apse, and the aisles with square east ends. This part of the church is built entirely of brick, although some stone tracery is being inserted in the windows in the restoration now going on. Considerable remains of a vaulted rood screen exist, partly embedded in the present west wall of the choir, with rich traceried windows, but the whole is in a very decayed and damaged condition. The church of Notre-Dame at Aardenburg, a town with which Damme was intimately connected, and through which its intercourse with Ghent passed, was in many respects similar, and it has met with a like fate. The nave, which is disused, is carried on cylindrical piers of Tournay stone, with boldly carved capitals [fig. 3], one of which is of a very English character, and there is a good triforium arcade, and a clerestory of lancets. Mr. Weale* gives the date of this as c. 1195, and of the eastern part as rebuilt in the sixteenth century. For its date this portion of the church is good in its proportions and plan, but it is now walled off from the nave, coated with whitewash, and pewed and galleried for Calvinistic services. The aisles are lofty, of equal height, the side ones square-ended, and the centre, extending two bays further, ends hexagonally. All is very elabo-

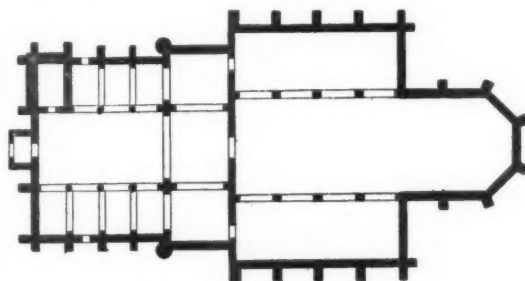


FIG. 4.—NOTRE-DAME, AARDENBURG.

* *Belgium, &c.*, by W. H. James Weale. Lond. 1859.

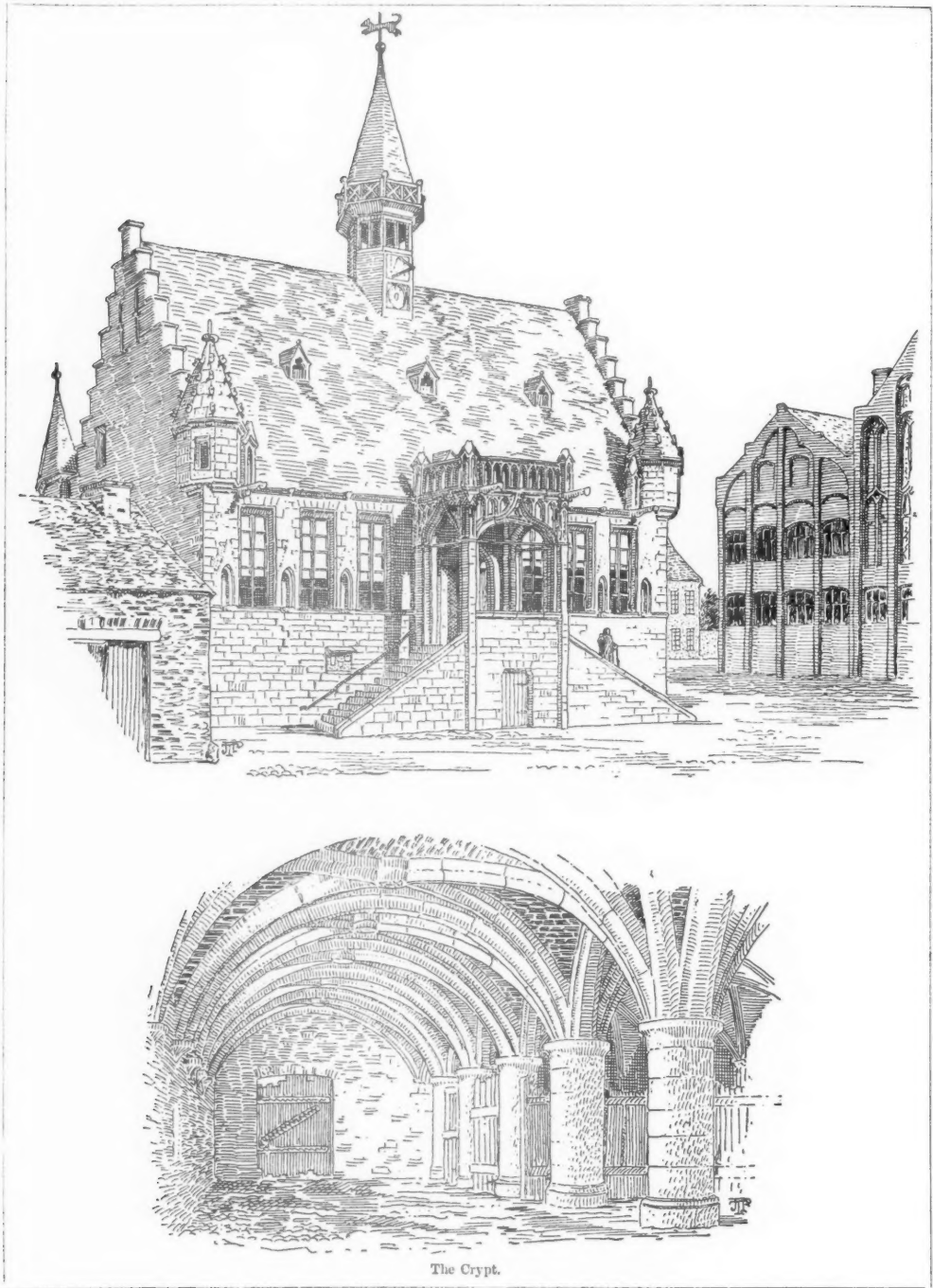


FIG. 5.—THE HALLES, DAMME.

ately vaulted in brick, and the brick tracery of the windows is much better than might be expected for the date to which the work is assigned. The sketch plans [figs. 1 and 4] will show the likeness existing between these two churches.

By far the most interesting building in Damme is the Halles [fig. 5], often erroneously called the Hôtel de Ville, but, as we have seen by the charter of Joan of Constantinople, intended for the display and sale of goods. It consists of two storeys; the lower one, level with the road, is divided into aisles and vaulted, and the upper one, containing two or three halls, is approached by a bold perron carrying a handsome portal. The whole of the front is built of stone, but the back and ends are mainly of brick. The work appears to be of two dates; the basement has its walling of small, well-coursed stones; but the upper part, though much more elaborately finished, has the ashlar more random in the coursing and more irregular in the size. Its history, as related by Mr. Weale, is briefly this.* It is said to have been founded in 1242, a date which will fairly accord with the lower part of the building, and the work thus immediately follows the establishment of the Hansa in the town. But in the floods of 1403-4, and the civil wars which succeeded them, the damage done must have been almost irreparable, and we find that arrangements were made for its rebuilding. In 1464, after a competition among architects,† the plans of Godevaert de Bosschere, mason, of Brussels, and Jan van Herve, carpenter, of Sluus, were selected, and between that date and 1468, Guillem, son of Godevaert de Bosschere, mason, Jacop Quaetwant, mason, and Andries Centurion, carpenter, carried out the works. The appointment of a mason of Brussels, where stone was more commonly used than in West Flanders, may account



FIG. 6.—ANGLE TURRET, THE HALLES, DAMME.

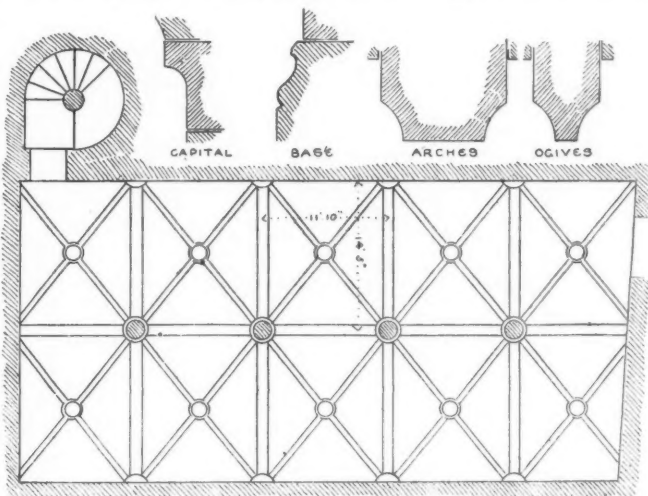


FIG. 7.—SKETCH PLAN OF THE CRYPT.

* *Bruges et ses Environs*, by W. H. James Weale. Bruges, 1884. Also *Histoire de l'Architecture en Belgique*, by A. G. B. Schayes. Brussels.

† "The Influence of the Hanseatic League, &c.": discussion [p. 496].

for the whole of the front being carried out in that material; and the similarity in some of the details, as in the angle turrets and doorway of the Belfry of Sluus [fig. 8], may be due to the work of Jan van Herve. However this may be, the work is quite unlike that being carried on at the same time in Bruges by Jan Van de Poele. The vaulted basement, which may be in part a portion of the original building, has the cylindrical piers and arches in Tournay

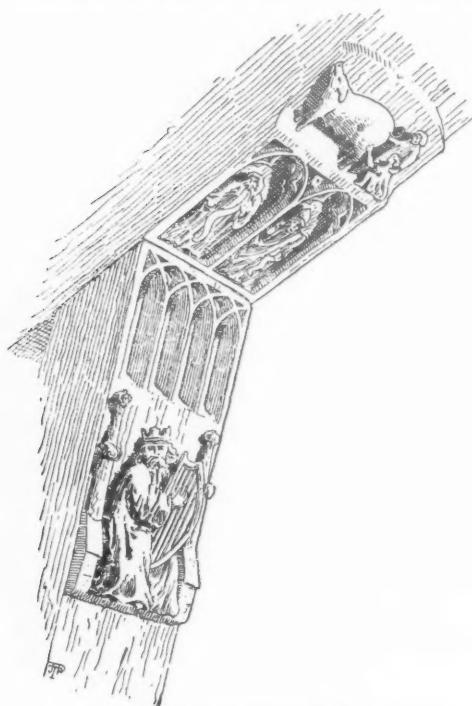


FIG. 8.—CORBEL OF CEILING BEAMS
IN THE HALLES, DENME.

stone, but the filling-in is of brick. It is connected with the upper floor by a newel staircase, contained in a square brick gabled turret. The upper floor is divided into large rooms, one still used as a council chamber, in which is a fine hooded mantel-piece well carved in stone, with the ancient cast-iron fire-dogs, and a most extraordinary and enormous pair of tongs. Both this and the adjoining room have the corbels of the oak roof elaborately carved. These were done by Wouter van Ingen, of Sluus—the smaller ones in 1464, for which he was paid 5s. each, and the larger in 1465, for which he had 7s. 6d. each.

The miserable condition in which this fine building remains is deplorable, in spite of some slight efforts at reinstatement which have been made. The basement is used as a stable and cattle-shed, full of straw and wood and other combustible materials, whilst the upper floor has become an estaminet.

J. TAVENOR PERRY.

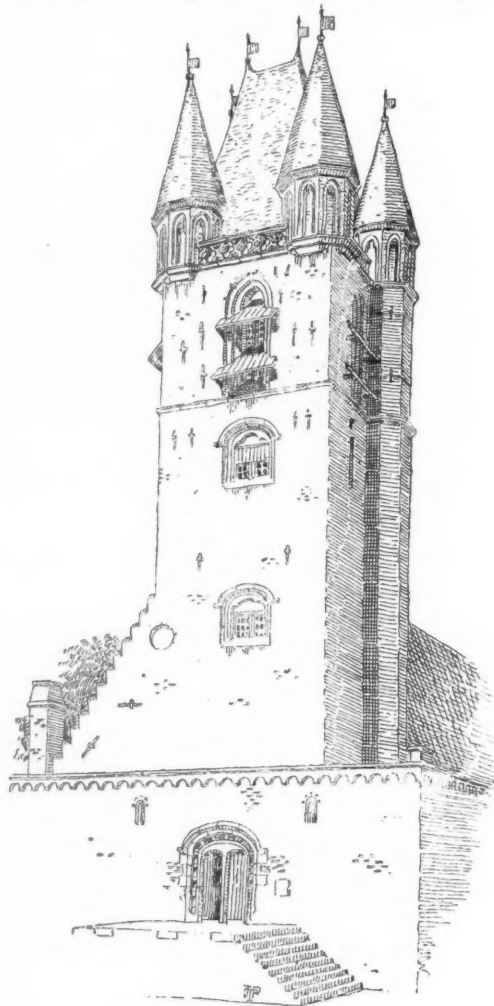
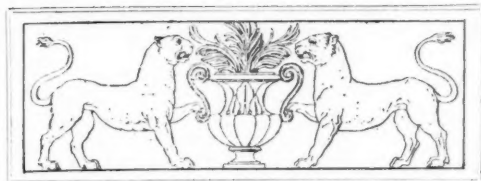


FIG. 9.—THE BELFRY, SLUUS.



CHRONICLE.

THE CAIRO COMPETITION.

Immediate Necessity for an International Jury.

A translation of the Programme and Conditions of the competition for a new Museum of Egyptian Antiquities to be erected in Cairo, with a plan of the site, which will be found in the present issue [pp. 628-30], may assist the architects of this country in deciding whether it is worth their while to participate in it. The all-important question of a jury or tribunal of assessors competent to judge of the merits of the several designs submitted, and impartial enough to come to a right decision without regard to the nationality of the several authors, is left by these Conditions in a very unsatisfactory state. It will be observed that the jury, though referred to, are not yet even nominated; that the "Administration"—*l'Administration du Musée*—reserve to themselves the "formation" of such jury; and that, while the Egyptian Government invite the architects of all countries to compete, it is the "Administration" of the Museum who draft the programme, impose the conditions, and appoint the jury. Not a word can be said in disparagement of the chief administrator—Monsieur de Morgan—and the excellent work he does, nor of his staff. He knows Englishmen well, and they invariably speak well of him. At the same time, not only are the present administrative authorities of the Egyptian Museum of Antiquities French, but the British Minister in Egypt, Lord Cromer, is known to make a point of avoiding all interference with them, to such an extent, it is averred, as to oppose the appointment of Englishmen to any official posts connected with archaeological research or survey in Egypt. It is therefore all the more honourable and disinterested on the part of Monsieur Daumet [*Hon. Corr. M.*], the distinguished President of the Central Society of French Architects, to have insisted on the appointment of an International Jury. In a letter he has recently addressed to the Egyptian Minister of Public Works, he expressed the feelings of architects all over the world on the subject of public competitions when he wrote—
 "Or, la première garantie que recherchent des architectes sérieux avant de prendre part à un concours est celle que leur offre la constitution du jury . . . dans un concours international surtout, la formation de ce jury est très délicate; la logique et l'équité sont d'accord pour de-

"mander que le jury soit, lui aussi, international." These words cannot be too often repeated. The first consideration with British architects willing to submit designs in open competition is to be assured of the *bona fides* of those who invite them; and this is only possible in an international competition when the jury appointed are also international and their names are duly published to the world. No time should be lost in making the desired announcement, especially as the date for sending in the designs is the 1st March next—barely six months, if the delay necessitated by their transit to Cairo be taken into consideration. Much is due to the French architects for the energy they have displayed in the matter of this competition; and more, indeed, for their having taken such high ground in recent appeals to the Egyptian Minister. The obvious duty, as well as inclination, of their brethren in this country is to support them in the course they have rightly adopted.

Nubia and its Future.

At the Oxford meeting of the British Association for the Advancement of Science, a Paper was read by Mr. Somers Clarke on the geography of Lower Nubia and the changes which would result from the proposed Nile reservoirs of Assouan or Kalabshah. It was illustrated with lantern slides showing how, in 1878, the ex-Khedive Ismael was the undisputed master of the entire catchment basin of the Nile, with an over-lordship of much of the adjacent country. This area passed within the sphere of British influence in 1882. In 1894 Egypt is confined to the region north of Wadi Halfa. It is now proposed to convert about one hundred miles of Nubia into a lake. If the northern limit of the depopulated area is fixed at Assouan, and the river-level is raised from 90 metres above sea-level to 118 metres, the island of Philæ will be submerged to a depth of 14 metres above the floor of the great temple. It was stated that the proposal to raise the Temple of Isis above the lake could not be considered as adequate to the just demands of an age which recognises the priceless value of such historical monuments. If it is conceivable that a platform or plinth could be inserted beneath this building, with a base of 150 feet in breadth, 225 feet in length, and 50 feet in height, heightened by a parapet against wave action, no such remedy can be suggested for the colonnade, already impaired in stability. Further lantern slides were exhibited giving the other buildings, temples and forts to the south, including Kalabshah, whose destruction is contemplated. Mr. Somers Clarke laid special stress upon the extrusion of 30,000 Nubians from their homes, and the impossibility of providing for them in any part of the present limited area of Southern Egypt. He insisted upon, at least, a thorough survey and careful record of all that is now con-

tained in this section of the valley—not only of the unique antiquities, but also of all that bore upon the life of the country, human, animal, and vegetable.

Professor Norman Lockyer pointed out that the temples of Philæ were Ptolemaic and Roman reconstructions of ancient edifices founded 6,000 years ago, and that in their orientation and other characteristics they had preserved valuable information of ancient astronomical science which we had not as yet been able to fully master. Their destruction, therefore, would arrest inquiry unless a most careful and exact copy were made of each building. He said that it was the intention of the Egyptian Government to devote a sum of £50,000 to this work, if the construction of the reservoir were approved by England and the other Powers.

Mr. F. C. Penrose expressed his entire concurrence with Professor Norman Lockyer as to the necessity of a thorough examination of the whole district, and the preservation of its archaeological treasures, so far as possible, by minute and accurate drawings or models.

The very beautiful water-colour drawings of Mr. Phené Spiers, made while some of the structures were in a far more perfect state of preservation, were exhibited in the hall, and attracted much attention from experts.

It may be added that Mr. F. W. Webb, the well-known engineer, has written to *Engineering* (10th inst.) to ask the question, "Why not put a 'concrete wall round the island, so as to inclose the 'temples, and a culvert to the lower side of the 'dam to carry off water that may filter through?' Similar suggestions have been made elsewhere. They are due to a failure to appreciate the height of the proposed wall, which would completely destroy the æsthetic value of Philæ. So far as the colonnade and some of the other architectural monuments are concerned, the wall would be in close contact with the buildings. It is easy to speak of 'a concrete wall,' but it would in fact be a dam over 50 feet high, between the water on one side and the island on the other nearly 1,000 yards long, and requiring exactly the same measure of stability as the so-called 'low-level 'dam' across the river. It would certainly cost not far from £300,000.

Preservation of the Temples of Karnak.

While so much is being said and written on the subject of the proposed reservoir below Philæ, it is important that the object which the Society for the Preservation of the Monuments of Ancient Egypt has had in view for so many years should not be allowed to drift into the background. Of all the noble monuments bequeathed to us by Ancient Egypt, none equal in grandeur the majestic ruins of the Temple, or group of temples, of Karnak, now known to thousands of travellers in pursuit of health from its near proximity to Luxor, in

recent years famous as the health resort of Upper Egypt. The grave and imposing entrance to the great temple fronts the Nile at a distance of about a quarter of a mile from the river-bank. Passing through the pylon with its two gigantic towers, one enters the spacious enclosed court which was almost the latest addition to the temple, being erected by Shishak, the contemporary and ally of Jeroboam of Israel, ten centuries before the Christian era. Near the centre, striking and impressive in its graceful solitude, rises the one tall pillar, sole remnant of the avenue of twelve similar columns which formed the approach to that masterpiece of Egyptian architecture, the Great Hall of the Kings. The Hall itself, which is thickly planted with columns, some nearly seventy feet high, is roofless; but gigantic stones resting on the capitals unite the pillars of each row one to the other. A single stone-latticed window remains. Walls and pillars are adorned with a maze of figures and hieroglyphics cut into or relieved upon the stone, and still retaining much of the colour with which they were originally decorated. The sculptures executed under Seti (c. 1400 B.C.) are in full relief, and in grace and delicacy of design excel those added by his successor, Rameses II. The whole scene presents a mingled picture of majesty and ruin, strength and decay, difficult to convey in words.

To arrest further decay, and to preserve to posterity this magnificent group of ruins, is the task set itself by the Society for the Preservation of the Monuments of Ancient Egypt. The scheme by which it is hoped to achieve this end has been described by Mr. Poynter, R.A., in *The Times*. The mischief, he explains, is due to the crystallisation of the salts contained in the soil, which eat away the bases of the columns and walls. This destructive agent is set in action by the annual inundations of the Nile. The salts in solution penetrate the porous surface of the sandstone, and, as they crystallise in drying after the waters have retired, minute fragments of the stones are broken off. The result of this process, repeated annually through many centuries, may be seen in any photograph of the ruins. The columns, instead of resting on a broad base, have but a narrow neck for their support; this finally fails them, and the column falls. The fate which has overtaken so many undoubtedly awaits all those within reach of the inundating waters. The scheme which the Committee have decided to adopt is one devised by Major Brown, R.E., Inspector-General of Irrigation for Upper Egypt. It consists in pumping the Nile water out of the area of the ruins, and preventing the cause of mischief by keeping them dry. It is proposed to employ for the purpose a steam pump and engine-house with a well, and an 18-inch pipe drain to carry the inundation water back to the Nile as fast as it enters the ruins. The Egyptian Government have given their consent to

the carrying out of this scheme. The Society is to pay the expenses of the erection of the pump, engine-house, and other apparatus, and to provide for the working of the engine for two years. After that period the Egyptian Government have undertaken to take charge of the operations and furnish the means for the permanent working of the engine to keep down the water. During the past season Major Brown has been actively at work, and the engine-house and pump are nearly if not quite completed. Care has been taken to place the engine-house in as inconspicuous a position as possible outside the general area of the ruins.

Mr. Poynter appeals for further funds to enable the Society to carry out the whole work and hand it over complete to the Egyptian Government at the end of the two years. The total cost is estimated to amount to £1700, more than half of which, it is satisfactory to note, has already been subscribed. The Institute numbers among its members many ardent archaeologists to whom such a promising scheme cannot fail to commend itself. Any desiring to contribute towards the balance required should forward their subscriptions to the Hon. Treasurer, Mr. F. G. Hilton Price, F.S.A., 17 Collingham Gardens, S.W.; or to the Hon. Secretary, Mr. Edward J. Poynter, R.A., 28 Albert Gate, S.W., who states that he will send a report, containing details of the scheme, to any one desiring further information.

The Congress at Budapest.

At the Congress of Hygiene and Demography, which is to be held at Budapest from the 1st to the 9th September, under the patronage of the Emperor of Austria and the presidency of Count Karolyi, Mr. Arthur Cates [F.], Mr. T. W. Cutler [F.], and Mr. John Slater [F.] will represent the Council of the Institute. The heads of subjects to be discussed will be found printed at p. 309.

The Streets and Buildings Bill.

The London Streets and Buildings Bill 1894 passed the House of Lords on the 14th inst., with amendments which have been accepted by the House of Commons. The London County Council seem well content with the metamorphosis the Bill underwent in its passage through committee; and the promoters, they consider, may be congratulated on having so far accomplished the much-needed amendment and consolidation of the building law. While lamenting that many points had to be yielded, which might have been carried through had time permitted evidence to be taken on them, the County Council nevertheless acknowledge their indebtedness for the assistance rendered by the opponents to the Bill as originally drafted. "It would be wrong to suppose," they observe in a recent report, "that the opposition to which it has been subjected has in all cases damaged the Bill. Far from it. The

"opposition of the Royal Institute of British Architects, of the Surveyors' Institution, and of the Ecclesiastical Commissioners has, upon the whole, resulted in making it a better measure, and certainly a more workable one." Good; it is a pity, however, that the conference between the promoters and the representatives of the Councils of the Institute and the Surveyors' Institution, which produced such excellent results on the non-contentious portions of the Bill, was not extended to the new legislation, especially in Parts I. and IV., which provoked such determined opposition. The promoters would have had the advantage of the technical skill and practical experience of the delegates, which would have resulted in a still better, more workable, and more equitable measure; and a vast expenditure of time and money on both sides would have been avoided.

New Travelling Studentship.

In the year 1886 Mr. Thomas W. Aldwinckle, architect, presented a purse of £50, to be competed for by members of the profession between eighteen and thirty years of age, the successful competitor to make a visit of not less than eight weeks' duration to Italy, for the purpose of studying works of Classic or of Classical Renaissance Architecture. This special Studentship was won and held by Mr. George J. Oakeshott [A.], now in Australia, two of whose drawings made in Siena and Florence are reproduced as specimens in the *TRANSACTIONS*, Vol. III. N.S., and a short description of them is there given by him. This summer, Mr. Aldwinckle, now a Fellow of more than seven years' standing, is pleased to offer a Travelling Studentship of the value of £50 per annum, during three consecutive years, for study in Spain. The details, however, are not yet settled, the Council having asked Mr. Aldwinckle to join the Prizes and Studentships Committee in order to arrange the Conditions under which he would like the Bursary to be held. Needless to add that the Council have thanked the liberal donor very heartily for a valuable addition to the several Studentships in the gift of the Institute.

The Sanitary Institute Congress.

The subjects for discussion at the Fourteenth Congress of the Sanitary Institute, to be held at Liverpool next month, are:—The Housing of the Working Classes; Rivers Pollution; Means for preventing the Spread of Infectious Diseases; Propagation of Cholera by River Communication and Railway Lines, and its Prevention; Precautions with regard to Public Disinfection; Sanitary Arrangements with regard to Emigrants; Examination of Food Supplies and the carrying out of the provisions of the Food and Drugs Acts; Sewerage, Sewage Treatment and Disposal, Sewage Farms; Collection and Destruction of Refuse; The Abatement of Nuisances; Port

Sanitation; Local Government Act 1894 (otherwise the Parish Councils Act) and effect upon Rural Sanitary Inspectors. Over 100 Sanitary Authorities, including several County Councils, have already appointed delegates to the Congress, and as there are 1,500 members and associates in the Sanitary Institute, there will probably be a large attendance, in addition to the local members of the Congress. The delegates of the Royal Institute of British Architects are Mr. John Holden, President of the Manchester Society of Architects, and Mr. Henry Hartley, President of the Liverpool Architectural Society.

The late Wyatt Papworth [F].

The death, last Sunday morning, of Mr. Wyatt Papworth deprives the Institute of one of its staunchest supporters, a firm and constant friend of sixty years. Present, a boy of twelve years, at the First General Meeting, held 2nd July 1834, when his father with eleven others subscribed their names to the First Address, he attended the Anniversary Dinner held on the 2nd ult. at the Whitehall Rooms, not without some personal discomfort, which the hearty welcome he received but slightly alleviated. His career during those eventful years has been one of hard work, mainly of a literary character. The Editor of the last three editions of Gwilt's *Encyclopædia*, the chief contributor to the *Dictionary of Architecture*, which he edited from its very beginning, and which he happily lived to complete, he retired a short time ago to the comparative seclusion of Sir John Soane's Museum, doing there in a few months more work as its curator and of a more generally useful description than his two predecessors had attempted in as many years. Few men possessed more knowledge of a special kind, no man imparted it with truer modesty; and if he seldom rose to speak at a General Meeting, his remarks, always valuable when he did rise, were listened to with a respectful earnestness that few other members have enjoyed, even the most eminent.

Wyatt Papworth, who was born 23rd January 1822, was the second son of John B. Papworth, architect to the King of Wurtemberg, and one of the founders of the Institute. His elder brother was John Woody Papworth, an equally indefatigable worker on behalf of the Institute, who died in 1870. Educated at University College School, he received his early professional training in the office of his father. Serving for a time under the Commissioners of Sewers for Westminster, he afterwards entered the office of Sir John Rennie, and subsequently accepted the appointment of assistant, and later of surveyor, to the Alliance Fire Insurance Company, the branch office of which at Ipswich was erected from his designs. This appointment he held for over forty years, retiring in 1888. He rearranged the large corner building in King Street, St. James's, for the Junior

Army and Navy Club, and was successful in a number of competitions, though from one cause or another only three or four of his designs were carried into execution.

He was elected Fellow of the Institute in 1860, and served for many years on the Council, of which he was a member at the time of his death. He had been Master of the Worshipful Company of Clothworkers, and took a leading part in the promotion of technical education.

It is, however, for his literary work that Papworth will be particularly remembered, and especially for his unwearied services as Editor of the Architectural Publication Society's voluminous *Dictionary of Architecture*. This work, which originated with him and occupied so large a part of his active life, was begun in 1852 and brought to a satisfactory conclusion in 1892, the whole having been produced under his editorship. Among the numerous works by him in the Library may be mentioned the *Life and Works of J. B. Papworth* (his father), privately printed in 1879, and his *Renaissance and Italian Styles of Architecture in Great Britain*, published in 1883. The essay "Peculiar Characteristics of the Palladian 'School of Architecture,'" which won him the Silver Medal of the Institute in 1849, as regards research, value of matter, and style of composition, is a model of its kind, and intending competitors for the Essay Prize would do well to study it. An extract from this Essay is printed in the present issue [pp. 631-32]. He was a frequent contributor to the JOURNAL from its commencement, and besides reviews and other articles, the Institute is indebted to his industry and research for a number of valuable Papers.

The late Lawrence Booth [F].

Mr. Thomas Chadwick [A.], of the firm of Messrs. Booth & Chadwick, of Manchester, has kindly furnished the following particulars of the life and work of his late partner, whose death occurred on the 25th ult.:—Mr. Lawrence Booth—old not in actual years, but in his connection with the Institute, the deceased gentleman having been elected an Associate thirty years ago, and elected a Fellow twenty-four years ago—was in his fifty-eighth year. He served his articles at Oldham under Mr. Stott, and having completed them, he became assistant to Messrs. Blackwell & Son, of Manchester. After three years' service this firm were so pleased and satisfied with his abilities that they offered him a partnership, which was accepted, and the new firm conducted its business under the title of Blackwell, Son & Booth. The firm subsequently, on the death of its senior member, became Blackwell & Booth, and in the year 1876 Mr. Booth succeeded to the business on the death of his partner, Mr. Isaac Blackwell.

Mr. Booth will be remembered chiefly as the architect of the Salford Union Hospital at Hope,

near Eccles; the Barnes Convalescent Home at Cheadle; the Bury Infirmary; and Hospital work for the Bury and Chorlton Unions, and for the Manchester Infirmary Board. Several churches have also been erected from his designs—namely, Christ Church, Walshaw, near Bury; St. Thomas's Bury; restorations and extensions at St. Paul's Bury, St. Mary's Rawtenstall, and Tunstead Church, near Bacup. Mr. Booth was also the architect of the Middleton Free Library; the Public Hall, Library, and Baths at Newton Heath, Manchester; the Bank Street Schools, Bury; and the Public Baths at Pendleton for the Salford Corporation.

Apart from his private practice, he was a warm advocate for the affiliation of local societies with the Royal Institute. Possessing a ready pen, he was a frequent contributor of suggestions intended to serve the interests of the profession. He took an early part in the movement which brought about the system of Progressive Examinations, and took a deep interest in the question of the proper training of the architectural student. For two years he was President of the Manchester Architectural Association, now merged in the Manchester Society of Architects, an allied branch of the Royal Institute, during which time he made many personal sacrifices to benefit the Association, with the corresponding result that during his occupancy of the presidential chair much excellent progress was made. He has also served as President of the Manchester Society of Surveyors and Valuers. Owing to failing health during the past year or two, he did not feel equal to devoting himself so thoroughly to matters of general professional interest, and it is greatly to be regretted that one so eminently qualified to take a leading part in these matters should have been taken from us at a time when his ripe experience and power of moving others in the right direction, and of infusing enthusiasm at the same time, would have been so beneficial to the profession.

Museum for Sanitary Appliances at King's.

The Worshipful Company of Plumbers invite members of the Institute to visit the Museum for Sanitary Appliances and the Plumbers' Workshops which they have opened in connection with their advanced classes for plumbers at King's College, London. The plan of the old drainage which was met with, and the plan of the new work carried out by the Company, are to be seen at the Museum. An order of admission can be obtained on application to the Clerk of the Plumbers' Company at 1 Adelaide Buildings, London Bridge.

The Decimal System of Measurement.

Mr. T. J. Willson [A.] has presented to the Institute a metal two-foot rule of the standard English foot, divided decimally, which was given him many years ago by the President, Mr. Pen-

rose, who adopted the decimal system when conducting his Greek investigations at Athens. This system is easy in use, and for exactness, facility in tabulation, and especially in calculation, vulgar fractions being avoided, possesses many advantages over the duodecimal. As simple proportions of $\frac{1}{10}$, $\frac{1}{15}$, $\frac{1}{100}$, $\frac{3}{100}$, and so on, form the basis of Continental drawings and engravings, they can be reduced much more conveniently and accurately by the decimal foot, at a considerable saving of time and trouble. In converting metres into feet, and *vice versa*, the readiness of the decimally-divided foot is also an advantage obvious in itself. Mr. Willson, who first became familiar with the decimal system when working with Mr. Penrose at Athens in 1846-47, states that he has frequently used it in measuring ancient and other work in England, and that as the conversion of dimensions so stated into eighths of inches is ready, the inherent error of 4 per cent. being easily allowed for, there is practically no inconvenience. It may be too much to expect building surveyors to accept the decimal division of the foot; but, if tested thoroughly, the advantages of rapidity and correctness would be found to rest with a system in which $\frac{1}{10}$, $\frac{1}{15}$, or any such attempt at accuracy is superseded by decimal parts.

Additions to the Library.

Three parts of the sixth volume of *Ars Quatuor Coronatorum*, the Transactions of the Lodge Quatuor Coronati, No. 2076, London, which contain numerous profusely-illustrated Papers and much information of Masonic and general interest, have been received from Mr. Wyatt Papworth, whose final contribution to this JOURNAL was a notice of them in the last issue [p. 599]. The presentation was accompanied by the *St. John's Card* (27th December 1893) of the Lodge. Mr. Thomas S. Pope, of Bristol, has presented his pamphlet, *Notes on Baptismal Fonts*, illustrated by himself and others.

From Brussels come the *Notes de Voyage* of M. Paul Saintenoy in the counties of Kent, Oxford, Cambridge, and Northampton, and the third part of the eighth volume of the *Annales de la Société d'Archéologie de Bruxelles*.

The *Transactions*, Vol. V., part 1, of the Essex Archaeological Society have been received from the Society, containing among numerous Papers a brief one by Mr. F. Chancellor [F.] on Leez Priory—a subject of considerable interest to architects, which is further dealt with by Mr. Chancellor and Mr. John Sergeaunt in Papers lately read before the Felsted School Natural History Society, and published, with a ground plan of the Priory, in the Society's *Report*, presented by Mr. Chancellor. The same *Report* contains also a Paper giving an account of the Lake Village discovered two years ago near Glastonbury. Vol. XXXIX. of the *Sussex Archaeological*

Collections has been received from the Sussex Archaeological Society. Among the Collections is a valuable Paper by Mr. J. Lewis André, F.S.A., on "The Chancel Screens of Parish Churches." The Yorkshire Archaeological Society presents Part 50 of its *Journal*, containing among other contributions "The Brus Cenceth at Guisbrough" by Mr. Charles C. Hodges, and "Notes on Yorkshire Churches" by the late Sir Stephen Glynne, Bart. The Canadian Society of Civil Engineers have contributed their *Transactions*, Vol. VII., part 2, which contain a Paper on Domestic Sanitation by Mr. Alan Macdougall.

The Forty-first Report, and Supplement, of the Department of Science and Art of the Committee of Council on Education; the Report (1892) to the Special Committee of the London County Council on Technical Education, by H. Llewellyn Smith, Secretary of the Committee; the Report from the Select Committee of the House of Lords on Town Improvements (Betterment); and Reports from the Select Committee of the House of Commons on the London Streets and Buildings Bill, with the Proceedings of the Committee, have been added to the Library.

Mr. Sidney Webb has presented through the publishers [Messrs. Longmans, Green & Co., London and New York] *The History of Trade Unionism*; a remarkable book, the joint work of Mr. and Mrs. Webb, which has been treated by the London press with just commendation.

A work, which has already reached a twelfth edition, by Mr. T. M. Clark, Fellow of the American Institute of Architects, entitled *Building Superintendence: A Manual for young Architects, Students, and others interested in Building Operations as carried on at the present day*, has been presented by the publishers, Messrs. Macmillan & Co. From Messrs. Hendricks & Co., of New York, has been received the *Architects' Guide and Contractors' Directory of America*; and from the Senate of the Edinburgh University the *Calendar for 1894-95*.

REVIEWS OF NEW BOOKS. XIII.

(35.)

THREE ARCHITECTURAL PERIODS.

Three Periods of English Architecture. By Thomas Harris, F.R.I.B.A., F.San.I. 8s. Lond. 1894. Price 7s. 6d. [Mr. B. T. Batsford, 94 High Holborn, London.]

It is not everyone who can appreciate the exact motive of such a book as the one under notice, which is both the gospel of a new style and the "whole duty of man" as architect.

Architecture, to be the true expression of a people's temperament, must be largely unconscious, and it is essential that it should give such expression if it is to be of the highest character. The satisfaction of physical needs can be supplied by

the less comprehensive art of building; but national architecture, in the true sense of that word, should tell the historian something more than the pitch of civilisation or luxury which marked this or that epoch or people. Like the traditional folk-song, it should let him into the secret of habits of thought; it should embody popular aspirations, and fix for him the shifting sands of opinion and doctrine. With all deference to the many eminent men who are put into the witness-box by Mr. Harris on behalf of the possibility of attaining to something of that sort under existing conditions, I feel quite unable to follow them. Four hundred years ago the knell of all such hopes was sounded once for all. It may be true that the introduction of Renaissance was due to the whim of a minority numerically insignificant, whose wealth enabled them to reproduce here what had caught their fancy abroad. It is obvious, indeed, that Gothic, so to call it, survived in out-of-the-way corners and in vernacular art for a very long period; but has not fashion always its word to say in matters of art? and is not its dictum, after all, the expression of some section of contemporary opinion? Grant that fashion was primarily responsible for the banishment of Gothic—the effective cause—still the attitude of mind of the people at large made the change possible.

Where would Gothic be now, Mr. Harris asks, if it had been allowed to work itself out without interruption? We shall probably be not far wrong if we answer that it would have stood pretty much where, as a fact, it does stand. Its vitality was a thing of the past; it was dying of inanition before the poisonous draught was ever held to its lips. I hesitate to say that all art has found its highest manifestation in the service of religion. Such a sentiment is, I gather, hopelessly out of date; but I would point to the fatal and consistent decline from enthusiasm to individual vanity, and from that to formality almost unrelieved, which marks the course of Gothic architecture in England. Man had, once on a time, been content to be the unit in the great army of designers; by the fifteenth century he had become what he is now—an individual, self-conscious and self-centred; he had dethroned tradition to make way for caprice, and had set up the figure of hard commonsense as his fetish.

It was this spirit which was accountable for fan-vaulting, for which we may be grateful; but it was the same spirit which made the reticulated west front of Barcham Church, illustrated by Mr. Harris, a hideous possibility. This was a depth rarely plumbed; but Mr. Ruskin's strictures on all perpendicular window tracery are true in the main. The T-square and set-square had become the senior members in the architectural firm; the forms, if not the principles, were worn out, and the invader practically found a beaten army before him.

Mr. Harris asks the rising school of architects to take up Gothic where it was left, and to carry out its principles in modern materials and to modern ends. Why use this much-abused term, "Gothic," at all? What does it connote? I have reviewed books in this journal which restricted its meaning so jealously that not one old building in England could be found to satisfy every requirement; and this severity on the one side is counterbalanced by a laxness of view which would admit the presence of a pointed arch as a sufficient justification for the epithet. Form will always have the "pas," and principles humbly hold her train for a large majority so long as human nature endures, but neither of these are the "Gothic" which it is our mission to exploit.

If we avail ourselves of all that is newest and best in material, if we set ourselves in the forefront of those who are prompt to satisfy each new requirement of the world of business or pleasure, and if we do this with the greatest economy of material and the most scrupulously careful adjustment of means to ends, then we shall be practising Gothic. Such, to take an example, were the elements which went to the production of the Forth Bridge; and if we may be allowed to drop a name which has done overmuch service already, and masqueraded in motley too long, we have nothing but acclamation for the principles. Mr. Harris, however, means something more than this. "In the meantime," he writes, "we must be prepared to adopt new methods of construction, and, accustoming ourselves to novel forms and proportions arising out of the use of materials unknown to our forefathers, force ourselves to break with prejudice and take commonsense and reason as our guide." There is nothing like leather, of course; but it is at least a question whether we may not look forward to the days when iron and aluminium may run in harness with the materials which long custom has hallowed without being necessarily prejudiced or illogical.

No one could admire the engineering feats of the last decade more sincerely than the present writer, or be more genuinely in agreement with the desire that the mastery of metal construction should be part of our equipment. Some years ago, in these very pages, he wrote: "It is strange to think that even among architects, who are also men of taste, there are many who can see nothing beautiful in the fabric of the Forth Bridge, in the infinitely delicate adjustment of means to ends, and in the boldness of the conception, but prefer to ask why it is that engineers either ignore the propriety of having a (so-called) architectural motive, or, accepting it as a duty, do but show their incompetence to deal with it."

Since those days the French Exhibition buildings have served as a vast object-lesson in the decorative treatment of iron construction, and the

value of emphasising the constructive features themselves in the true Gothic spirit has been put beyond question. No one could appreciate more highly than I do this casting away of the old trappings, the stage wardrobe which had been worn out in the service of stone construction; but it is quite another thing to look forward even with equanimity to the day when stone shall never serve a higher purpose than the filling-in of an iron framework, or to see wherein the wisdom of such a hope resides. This would be to put an undeserved slight on a lifelong friend, and to make a despot of an extremely useful and faithful servant. Iron has its place, and a large one; but there are conditions under which it is almost an outrage.

Is not metal as natural a material as wood or stone? it is asked, with a strange disregard for the effects of manufacture in taking the bloom off that naturalness. One might, in certain circumstances, accept the use of iron for a cathedral; for warehouses, for shops where every inch of space is of value, and generally for business quarters, its suitability is patent; and one might go a step further than Mr. Harris appears to do, and ask for structures which shall be metal from top to toe, filling-in as well as construction; but the evolution of the artistic sense will have to be many stages further on the road to perfection before the harmony of metal building with woods and pastures can be admitted.

Where so revolutionary a policy is in question, it seems almost superfluous to consider such minor matters as the style of the near future before metal has become paramount. The brief span of purgatory, when Paradise is in sight, is of small moment. Style, to be universally accepted, cannot be a matter of individual or even of corporate predilection; it must have its foundation in some feature of universal application and first-rate importance, and such an element would undoubtedly be supplied by the general use of what is practically a new material to architects; but if we are to wait or to work for the birth of a new style, we shall grow greyheaded in the process—"Rusticus expectat, dum defluat annis." The new style will be born on the Greek Kalends—not a day sooner. The changes which followed one another in natural and logical sequence when architecture still had its roots in the ground cannot in the nature of things be looked for when the artificial has to be accepted in default of the natural. Changes, of course, are incessant: restlessness, Jones's too human desire to outshine Brown, whim, and even perversity, a thousand qualities inherent in a too-fully awakened consciousness, are enough to account for them, without the virtues which are similarly urging their possessors on to some goal not fully understood and never quite attained. It seems certain that we must move on in a circle, the satellites of a bygone style or styles, till some vast body, hurtling

through space, shall cross our orbit and end the service of centuries. Nothing can do this but the wholesale introduction of a new material, and if Mr. Harris is simply actuated by the desire to break through tradition, he is quite justified in asking us to throw aside the materials which keep it alive.

But is this worth our while? Many of us see in the work of those very men who proclaim the rottenness of things much greater merit than they would presumably admit themselves. If architecture has not progressed—mystic word!—it has at least passed into a phase which has many charming characteristics of its own, less vital, indeed, than the product of a large and spontaneous movement, but marked generally by the care to confine the “mad intellectuality” of the individual within reasonable limits. More than this we must not ask for; but one thing is certain: that incessant introspection is not the way to cultivate naturalness or to exercise the faculties of origination.

In the use of metal, then, our salvation lies, if we are to be saved by the rupture of old ties and the repudiation of centuries of indebtedness; and in the use of metal we may look to see our young men asserting their powers in a way worthy of their artistic ancestry; but if this is to mean the sacrifice of all the forms with which, in their latter-day manifestations, the eye is again being charmed, it will not be wholly gain.

ARTHUR EDMUND STREET.

(36.)

BETTERMENT.

Betterment by the Council versus Betterment by Recoupment. By T. W. L. Emden, L.C.C. Pamph. Price 2d. [London: Messrs. Diprose & Bateman, Sheffield Street, Lincoln's Inn.]

Mr. Emden's little pamphlet adds one to the many cases brought against the view taken by the London County Council on the subject of betterment. He offers a suggestion upon the oft-debated lines of “recoupment”; and although there is much to be urged in favour of that principle, an objection of great weight stands in its way. In course of time the State, as represented by the Council, may become a ground-landlord, with property upon its hands which it cannot advantageously get rid of, a correspondingly heavy charge being thrust upon the ratepayers.

However much we may disagree with the motives which underlie the persistent efforts of the London County Council to make “Betterment” part and parcel of municipal street improvements, we cannot but recognise that a large amount of gratuitous labour has been expended by one or two progressive members of that active body at Spring Gardens. And we cannot but believe that those gentlemen have fully persuaded themselves that what is practically a *new tax* properly comes within the scope of their municipal duties. It

might be thought, with reason, that, given an absolute necessity for a new street, or a widening of an old one, given the sanction of the Legislature to proceed with those works, that a purely municipal authority would at once so proceed, and leave the question of a *new tax* entirely to the legislative body which sanctioned the improvements. The gentlemen at Spring Gardens are perfectly well aware that no sane person has ever yet had the courage to deny the accuracy of the proposition that if by any street improvement the value of premises abutting upon or in the immediate vicinity of that improvement is enhanced, those who are in receipt of that enhancement of value should contribute fairly towards the cost of the improvement. Why, then, has the fight proceeded for so long a time? Why has London been compelled to endure all the inconveniences attaching to congested thoroughfares when the basis of settlement appears so clear? It is simply and solely because the gentlemen in the majority at Spring Gardens do not desire to fix the charge upon the real recipient of the enhanced value; but whether he has been “bettered” or the reverse, they have made up their minds that the wicked *ground-landlord* should be made to suffer for all his past misdeeds, and now be made to bleed for having sustained his legal right to hold that which he has legally acquired. Again and again has the London County Council been told by the Legislature that their street improvements have been recognised as necessary, but that their ideas of “Betterment” have not; and again and again have the schemes been completely shelved because the *new idea* has not been duly appreciated by those perfectly competent to form an accurate judgment.

We can all well remember the first attempt at “Betterment” in connection with the proposed “Strand Improvement,” and the amusing plan prepared by the London County Council to define what was euphemistically termed the “Betterment Area”—an area which included the confines of Lincoln's Inn Fields and ignored premises abutting upon the improvement. We see, day after day, that obtrusive unsightliness at the southern end of Tottenham Court Road—the cost of demolishing which is scarcely worth a moment's consideration—and we know that it so remains because of “Betterment”—an instance in which the charge for “Betterment,” levied on the *right person*, would be undoubtedly equitable. We know that, taken altogether, the finest bridge in the world as an instance of the amalgamation of the art and science of the architect and engineer (the architectural art portion being due to our departed President, the late Sir Horace Jones) has its approaches delayed and marred by the London County Council, first because, again, of this “Betterment” mania, and next, because Spring Gardens thought they knew better than the Corporation the proper lines of

approach to a bridge in the planning and erection of which they had had nothing whatever to do. Various attempts to cajole Parliament to let slip in this "Betterment" clause having in every instance been unsuccessful, we are brought to the inquiry into the subject by the Select Committee of the House of Lords which commenced its sittings in May last, whose Report appeared in the last issue of this JOURNAL, and although the terms of that Report might have been more clear and decisive, it should be ample to convince the London County Council that they have now no sufficient reason to longer delay the commencement of those street improvements which they themselves say are urgently required; and that an equitable method of providing for any "Betterment" and for any "Worsement" has been formulated in the Lords' Report.

The mass of evidence given before the Select Committee is instructive reading, and we now know that the term "Betterment" was not imported from America, any more than the system proposed by the London County Council coincided, as they stated it did, with that adopted by our friends over the water, whose witness stated, fairly and clearly, that "he would certainly advise a 'country which had not yet adopted the Betterment system not to do so.'" The Town Clerk of Manchester was good enough to say that "he thought 'the original assessment made for the purposes of 'betterment ought not to be disturbed, *even though 'the anticipated betterment of the property charged 'might not be realised,' and I congratulate the citizens of Manchester on the possession of so well-balanced a mind as that owned by its Town Clerk. Mr. Fletcher Moulton stuck to his colours when he ingenuously stated that whether 50 per cent. exacted as a contribution 'was too much or 'too little did not seem to him to be of the essence 'of the scheme'; and Mr. Charles Harrison's evidence was in accordance with all we have heard from him as the real author of this 'Betterment' idea.*

The expert witnesses pretty well agreed in the injustice of the principle as proposed by the London County Council, and on 19th ult. Lord Halsbury moved in the House of Lords the adoption of the Report of the Select Committee already referred to, and he opportunely explained that when the London County Council issued their plan of a "betterment area," that was not really what they meant—they really intended to convey that "no person outside the 'line drawn could be made to pay this additional 'taxation,' and it is to be much regretted that the London County Council did not say so before. The Earl of Morley asked a question which I have never yet heard the London County Council fairly answer, and that is the meaning of the word "owner," which Lord Halsbury now explains "included the freeholder, the owner of a lease,

"and the owner of a reversion." Exactly, and I do not envy the position of an arbitrator appointed by the London County Council who has the duty placed upon him to honestly apportion the respective charges in connection with any street improvement to be levied on the freeholder, the leaseholder, and the owner of a reversion. Some discussion arose on the question whether or not an owner could call upon the local authority to purchase the property supposed to be "bettered," and, under Clause (7) of the Report, certainly this power appears to be given to an owner. It is, in my opinion, a very undesirable power, because it would in time convert the local authorities into large owners of property, which would probably be "managed" at a ruinous cost to the rate-payers, and place in the hands of local authorities a controlling strength which might be utilised for purposes quite different from those originally intended. For myself, I cannot see why the present quinquennial assessments could not *justly* deal with all questions of local improvements, raising the assessments fairly on all property improved by local or municipal expenditure.

The Report was eventually adopted by the Lords, and it is devoutly to be wished that the London County Council will take its beating amiably, and that we shall very soon see those street improvements started which are of most importance to the public at large, and by no means wanting in interest to the architectural profession.

WM. WOODWARD.

NOTES, QUERIES, AND REPLIES.

Competition Abuses, Past and Present.

The time has happily gone by when an architect of any professional experience or knowledge of the world accepted the cynic's advice never to engage in a competition unless assured of possessing a "friend at court"; or when that whilom rare bird, a professional assessor, rejected every design submitted to him and accepted an invitation to prepare one of his own, with the promise of being entrusted with its execution. The memorial of 335 Fellows and Associates and of about 1000 non-members, presented some fifteen years ago to the President and Council of the Institute by the late Mr. Street, R.A.—whereby the memorialists offered to bind themselves not to take part in any public competition unless a professional adjudicator was appointed—led competition promoters to see that the architects were in earnest; and the fact was accentuated by the formation, soon after, of a League, every member of which agreed to ignore any and every invitation to a public competition where no engagement to appoint a professional assessor was entered into at the outset. So successful was this movement that since then public competition promoters of

respectability have invariably employed assessors chosen from the higher ranks of the architects, and often nominated by the President of the Institute at the promoters' request. The further honourable obligation that "every promoter of a competition, and every assessor engaged upon it, should abstain absolutely from competing, and from acting as architect for the proposed work," has also been scrupulously adhered to, at least as far as professional assessors are concerned.

Nevertheless, there are still hosts of small local representative bodies in various parts of the United Kingdom, from which emanate invitations to submit designs under conditions and according to instructions of the most ludicrous description. A member of the Institute only recently called attention to two specimens of the kind referred to, neither of which offered any hope that a professional assessor would be employed. One was for a public hall and offices, the designs for which were to be sent in by the 30th ult. The conditions stated that the cost was not to exceed £2000, while the accommodation asked for necessitated a building containing at least 200,000 cubic feet, which, at sixpence a cubic foot, would cost £5000. The representative of the promoters, being appealed to with this argument, merely replied that a good plan would not be discarded on account of the estimate exceeding £2000, and that competitors were to keep their estimates as near that sum as possible. The second case was a public competition for a market, the cost of which, according to the conditions, was not to exceed £4000, and the designs were to be delivered on the 4th inst. The architect whose design was selected as the best was to be awarded a premium of £30, which was to merge in his commission of 5 per cent. if he were entrusted with the execution of the work; but the promoters reserved the power to withhold the premium and also any expenses whatever incurred by the selected architect if the tenders to carry out the work should be more than 10 per cent. in excess of the stipulated cost of £4000. Moreover, they did not bind themselves to carry out the plan selected nor any of the plans, and they reserved "the right to retain possession for a period of three months from the 4th day of August 1894 of any or all of the unsuccessful sets of plans, with liberty to make such use of them as they might think fit." Even if, by a miracle, all went well and in accordance with the conditions, the successful architect—God save the mark!—was to receive 5 per cent. on the amount of the contract, which commission was to be payment in full for all the services usually rendered by an architect, for travelling expenses, and for quantities. "Can anything be done," asks the same correspondent, "to prevent such unfair treatment of our professional brethren, otherwise than abstaining from competing?" But why

call the treatment "unfair"? There was no compulsion in the matter. The trap was laid in the open and in the light of day, so that all might see; and if an architect, or anyone calling himself one, was caught by the leg and had his pocket picked, it was purely and simply his own fault. For an architect of experience and respectability to submit a design under such conditions is to encourage and condone "unfair treatment," constituting in itself an abuse of the competition system.

Here is a specimen of another kind of competition in which architects have been invited to indulge as follows:—

HARTLEPOOL SCHOOL BOARD.
TO ARCHITECTS.

The above Board are desirous of obtaining, by competition, plans, specifications, elevations, and estimates for a two-storied upper standard school to accommodate 250 boys and 250 girls in Galley's Field, Hartlepool, with cookery and laundry arrangements for the girls' school, and with laboratory and demonstration room for the boys' department.

The Board do not bind themselves to accept any plan, and the plan (if any) selected will be accepted only subject to the approval of the Education Department.

All drawings are to be on a scale of 8 feet to the inch, and to be sent, carriage paid, addressed to the Clerk, Hartlepool, on or before the 30th day of September next.

The plan, estimate, and specification (if any) accepted to become the property of the Board.

A plan of the ground may be seen on application to Mr. ROBERT EDGER, Clerk to the Board.

The only conditions under which the Hartlepool School Board and the several competitors (if any) are to be bound are contained in the above advertisement and a block plan of the site on which the school is to be built. The Board, be it observed, undertake to do absolutely nothing in exchange for the designs which they invite. They guarantee the employment of no assessor, professional or otherwise, to select the best design; they offer not a single premium; they do not undertake even to return any of the designs; and if, in their constituents' interests, they shrewdly reject such designs as may be submitted, no competitor can reasonably complain should he be asked to remove his drawings at his own expense. What does the Education Department, referred to in the advertisement above quoted, say to it? And are all the officers of that Department satisfied with this sort of thing? But, it may be argued, the members of the Hartlepool School Board have a proper sense of fitness, of responsibility, of honour. Unhappily, in the present state of representative institutions, a School Board need not consist of educated men; and there is nothing in the advertisement in question to show that Hartlepool is more favoured than many other provincial towns of the same size and importance.

Doubtless there are many other current examples of this sort of competition folly and injustice, and to establish a pillory in which to fix their promoters would be fairly legitimate as far as

concerned the majority; but it might also be a little hard on a few innocents who concur with the more "knowing" through sheer ignorance and inexperience. It is not, therefore, desirable to seek a remedy by such means; but the success of the movement which resulted in the acceptance of the "professional assessor" by all respectable and responsible men, involved at some period of their lives in promoting a competition between architects, ought to encourage a little further co-operative action in this matter. If, by a professional combination, a small representative committee were appointed, wholly independent of the Institute and with power to act, it would be possible to publish at stated periods a list of those public competitions the conditions of which were manifestly unfair; and if, at the same time, the great majority of respectable and self-respecting architects seriously undertook to ignore all and every of such competitions, promoters would awake to a sense of the position, and a recurring scandal be profitably effaced.

The French "Pied" and the English "Foot."

In a recently published book of Memoirs to serve for the History of the First Napoleon, the Emperor's height is given as 5 feet 2 inches, but nothing is vouchsafed by the translator to enable a reader to find out whether English or French measure be intended. In like manner, oddly enough, Thackeray has also stated, in the *Paris Sketch Book*, as part of his "Meditations at Versailles," that Louis the Fourteenth was 5 feet 2 inches high; and he added an illustration in which "Ludovicus" was shown in his proper person at a height of 62 inches, while "Ludovicus Rex" attained, with the aid of scientifically constructed shoes and a lofty wig, a height of some six feet. But Thackeray was always hard on the Most Christian King, whom he classed in the category of "Snob Royal," and he did not choose to remember that the old French "pied" was nearly an inch longer than the English "foot." Roundly stated, the present *mètre* equals 3 feet 3½ inches English, while three French feet are about an English inch short of the *mètre*, so that 5 feet 2 inches French would be more than 5 feet 6 inches English; though, as stature goes in England, such a height makes but a little man. Nevertheless, if the 5 feet 2 inches quoted above be French measure, those Englishmen who love the France of History may console themselves with the belief that Louis the Magnificent and Napoleon the Great were not much less than 5 feet 7 inches high, in their boots.

Origin of Sculpture in Indian Architecture.

From WILLIAM SIMPSON, R.I. [*H.A.*].—

The transition from wood to stone in the architecture of India is generally accepted to have begun about the time of Asoka, 250 B.C. As

this was known at the period when the classic influence was discovered in the Indus region, it was assumed that the Indian builders borrowed the idea of using stone from the practice of the Greeks, either of Alexander's time, or of those who belonged to the Greek kingdom of Bactria. To this was added the further theory that Indian sculpture owed its origin to the same source. Then followed the declaration of writers that they could see this Greek influence in the sculptures of Sanchi and Amaravati. Well, perhaps they are right; but I spent some days at Sanchi in the cold season of 1860-61 sketching these sculptures, and I have failed to distinguish it. To me the first evidence of the classic influence in the sculptures from the Peshawar Valley arose from contrasting their distinct difference from the sculptures of the Sanchi gateways. There are other difficulties that stand in the way of this theory. As yet we have no evidence that a classic influence, be it Greek or Roman, had reached the Indus at the time of Asoka, nor even at the period when the sculptures of the Sanchi Toranas were wrought, which may be put roughly as about the beginning of the Christian era. Amid so much uncertainty, this theory of the origin of sculpture must remain undetermined until a more exact chronology of the classic influence has been made out. Meanwhile, a very small bit of data has just turned up which appears to suggest a much more probable origin of sculpture in Indian architecture than that which has lately prevailed. I use the word "suggest," because it would be assuming too much to say that "it has established" the case. The point is likely to remain speculative—at least for the present. In the last Part of the *Epigraphia Indica* Dr. Bühler gives translations of a number of the inscriptions found at Sanchi by Dr. Führer in his tour of last year through Eastern Rajputana and Central India.* These inscriptions record in almost every case the names of persons who had made gifts of a pillar or a rail to the stūpa; but there is one inscription that presents a marked exception to the other. It records that "the workers in ivory of Vedisa have done the carving."† If the word "sculpture" had been used instead of "carving," it would not have altered the sense; and here we find a glimpse at least as to some of the artists, and the source of their art. These ivory carvers merely changed their material, and wrought in stone instead of ivory. Workers in other materials might have done the same. Previous to Asoka it is assumed that the architecture was of wood. Are we to suppose that the wooden architecture of India had no ornamentation on it? Why, some of the rudest of races who use wood for their houses decorate with carving; and we may be sure that

* See, for notice of *Epigraphia Indica*, p. 563 of the present volume of the JOURNAL.

† *Epigraphia Indica*, vol. ii. Part xv. p. 378.

decoration in wood was prevalent in India long before the time of Asoka. If the ivory carvers could change their material, the sculptors in wood could do so also. We know that brick was one of the early building materials of India, and in noticing a *Progress Report* last year I quoted Dr. Führer's announcement that he had discovered "a large two-storeyed Saiva temple, built of carved brick, and dating from the first century B.C."* If these bricks should turn out to have

or carving—which would almost mean that they possessed no decorative art—till the time of Alexander's invasion.

Systematic Testing of Bricks and Brickwork

[pp. 55, 463, 598].

The Fund for Experimental Research started on the suggestion of the Science Standing Committee amounts at the time of writing to £55 13s., which includes the ten guineas promised by the ex-Presi-

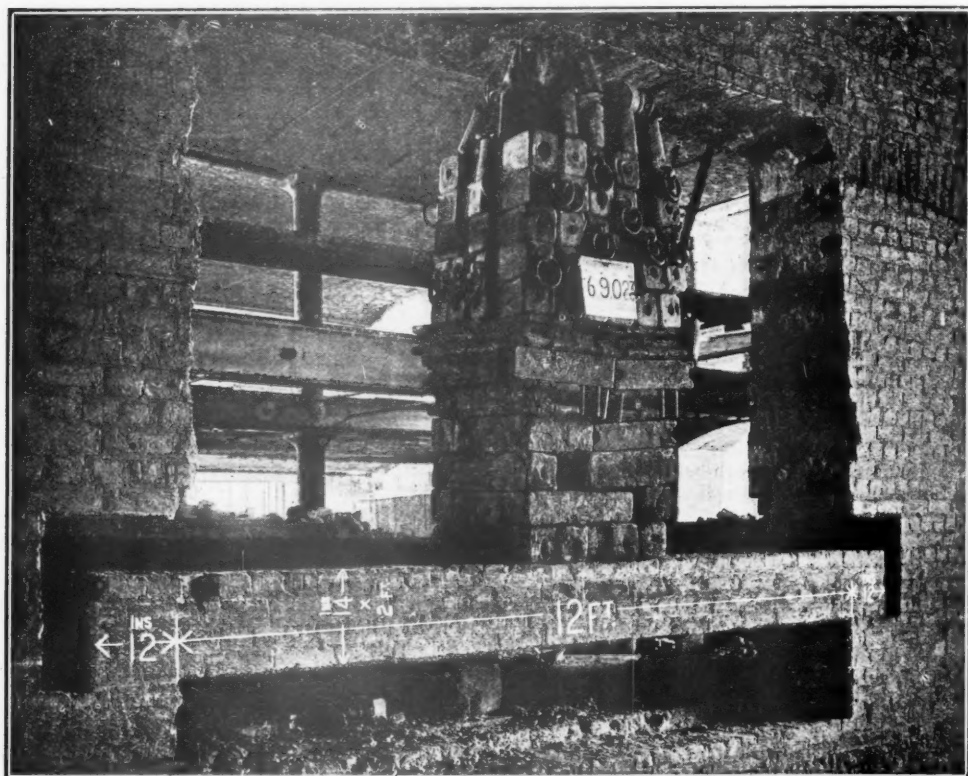


FIG. 1.

been moulded instead of carved, it would not alter the case, for the moulds must have been designed and cut; and, whatever the style may have been, it was not likely to have been derived, as early as the first century B.C., from beyond the Indus.

This is not the occasion to show that there were architects, or builders, in India as early as the Aryan invasion; for even without that knowledge it seems to me that it would be too much to assume that the people of India had no sculpture

dent, Mr. J. Macvicar Anderson, should the Fund be satisfactorily established. The estimated sum required is £200, which will be applied, in the first instance, towards the systematic testing of brickwork according to the scheme described in the report of the Science Committee [p. 55].

The subjoined communication, with illustrations, from Mr. Berrington [A.], is interesting as showing the breaking weight, after a lapse of fifty years, of a beam of brickwork cut out of a solid wall, built with mortar made with Halkyn Mountain lime. This experiment, however, concerns rather the tensile strength of an exceptionally good

* *The R.I.B.A. Journal*, Vol. IX. N.S. p. 422.

mortar or cementing material, whereas the information more generally desired is in regard to the sustaining power of brickwork piers of comparatively small dimensions as supports where there is a concentration of weight, such as piers for carrying warehouse floors or lofty buildings.

From J. A. BERRINGTON [4.]—

In connection with the investigations into the strength of bricks and brickwork advocated by the

The brickwork was cut out, top and bottom, twelve feet wide, leaving a lintel with this span seven courses deep (about two feet), and two feet width of wall; the ends of lintel were *not* cut free from the other brickwork. This was loaded with all the weight that could conveniently be put on it in iron "kentledge," without sensible deflection or signs of weakness. Two courses were then cut off, and the whole weight again put on, but with the same result.

Finally the lintel was further reduced a course,

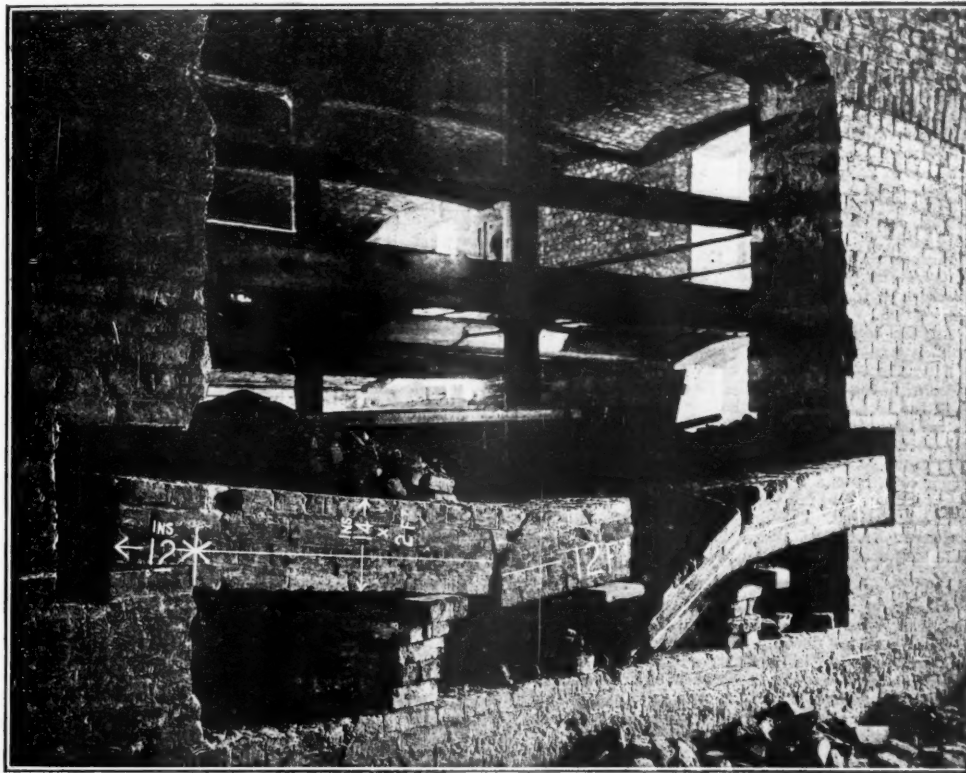
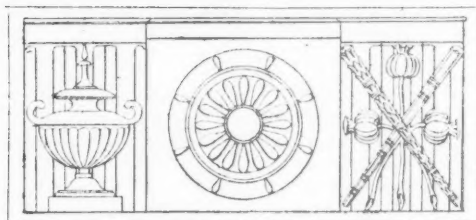


FIG. 2.

Science Committee in their report lately published in the *JOURNAL* [p. 55], I am enabled, through the kindness of Mr. A. G. Lyster, M.Inst.C.E., Assistant Engineer to the Mersey Docks and Harbour Board, to communicate the following account of some interesting experiments recently conducted under his superintendence.

The brickwork in question is about fifty years old—part of the Albert Warehouses at Liverpool—and was built with hand-made bricks set with ground mortar made with Halkyn Mountain (Flintshire) lime. This lime is in a high degree hydraulic, and makes mortar of exceptionally good quality.

leaving it four courses deep (fourteen inches), and the ends were cut free, the mortar beds of the bearings being left intact. A centrally-placed load was then put on gradually to the weight of 4 tons 15 cwt., which stood on the brickwork lintel for several days, with no apparent effect. The weight was then increased to 6 tons 9 cwt. 23 lbs., as shown in the illustration, fig. 1. This weight it stood for about thirty hours, when it broke during the night in the manner depicted in fig. 2. Other tests were made with similarly astonishing results, but the above will serve to show the quality of the brickwork in these warehouses.



9, CONDUIT STREET, LONDON, W., 23 August 1894.

INTERNATIONAL COMPETITION FOR A MUSEUM OF ANTIQUITIES AT CAIRO.

The Egyptian Government, being desirous that the collections of antiquities at present in the museum at Ghizeh should be exhibited in a building thoroughly suited to the purpose and possessing every possible condition of safety, have decided to put to competition the design for a new Museum of Egyptian antiquities at Cairo.

GENERAL CONDITIONS.

The competition is open to architects of whatever nationality.

Designs must be sent in to the Office of Public Works at Cairo before March 1, 1895, at noon. Any design delivered later than this will be rigorously excluded from the competition.

All the designs admitted to the competition will be publicly exhibited at Cairo for a period of at least ten days.

After the closing of this exhibition premiums will be awarded to the authors of the best designs in accordance with the report of a jury, the formation of which is reserved by the Administration [of the Museum?].

A premium of six hundred pounds* (Egyptian) will be paid to the author of the best design. Other premiums, amounting in the aggregate to four hundred pounds (Egyptian), will be divided among the authors of the four next best designs. The jury are furthermore to have power to award "honourable mentions" to the authors of designs deserving of such distinction.

EXECUTION OF THE DESIGN.

All designs which have obtained premiums will become the property of the Egyptian Government, with the right to make such use thereof as they may think fit.

The Government will not pledge themselves to carry into execution any one of the designs sent in or classified.

Should the author of the design placed first offer guarantees which may be deemed satisfactory, the Government may treat with him regarding the direction of the works on terms to be discussed, in which case the premium allotted to him will merge into his commission, payable on the supervening contract. These remarks concerning the direction of the works are offered, however, merely as an explanation, having no binding force beforehand either on the Government or on architects taking part in the competition.

TRANSMISSION AND RECEIPT OF DESIGNS.

Designs should be sent under seal addressed to "S.E. le Ministre des Travaux Publics," Cairo, Egypt.

The parcels should bear the superscription "Projet d'un Musée des Antiquités égyptiennes."

Every document and drawing forming part of the designs should bear either the name of the author, who should notify his address in a letter of advice, or else an

* All sums of money, premiums, &c., are stated in Egyptian pounds and decimal fractions of a pound. The pound sterling is worth 0.975 Egyptian pound, and the twenty-franc piece is worth 0.770 Egyptian pound.

inscription, device, or motto, to be reproduced on a sealed envelope containing the name and address of the author.

In the latter case, to prevent mistakes, the design and the sealed envelope should not be forwarded by post to the Office of Public Works, but delivered direct by a representative of the author of the design, when they will be officially stamped and numbered, and a receipt handed to the depositor. After the award of the jury is announced all the sealed envelopes corresponding to plans which have not been premiated will be burnt without being opened.

Designs which have not obtained premiums will be returned to their authors, or to their representatives, on demand.

DOCUMENTS AND DRAWINGS REQUIRED.

Every design must comprise—

1. An explanatory and illustrative report.
2. A block plan or general plan of the whole.
3. Plans, sections, and elevations in sufficient number to well explain the design in all its parts.
4. Sections of mouldings or other details (not obligatory).
5. A specification.
6. An estimate sufficiently detailed to make it clear that all the necessary expenses are included therein and exactly calculated.

The scale for the general plan will be $\frac{1}{200}$.

The scale for plans and sections will be $\frac{1}{100}$.

The scale for details will be $\frac{1}{20}$.

Competitors may supplement their designs with any drawings or documents of a nature to make them better understood.

GENERAL ARRANGEMENT OF THE DESIGN.

Site.—The building is to be placed on the site shown in the accompanying plan, so as to be isolated and surrounded on all sides by a garden.

The garden is intended for the exhibition of certain massive monuments little affected by the weather; it is to contain, also, various accessory buildings, such as a dwelling-house for the Director-General, workshops and outbuildings, *dépôts de matériel*, and for appliances used in the transport of antiquities and in the works of excavation. These accessory buildings are not included in the present programme, but a site for them must be reserved and shown in the block or general plan in such wise as not to interfere with the ultimate enlargement of the Museum.

The main front of the building will face the Avenue, twenty metres wide, which borders on the east the ground appropriated to the Museum; and it is to be set back ten metres from the alignment of this Avenue. An iron railing, to be fixed along this Avenue, is included in the present programme; and small lodges, consisting of one or two rooms for the native porters of the Museum, are to be arranged next the entrance gate.

On its other two sides the Museum garden will be enclosed by walls, the erection of which is not included in the present programme.

Component parts of the Building.—In addition to the vestibules, passages, staircases, &c., required for the different parts of the building, the Museum building must comprise the following *services* distributed on a ground storey and a first storey:—

1. On the ground storey:
 - (a) Galleries for the exhibition of ponderous objects and monuments of large size.
 - (b) Stores or repositories (*magasins*) for the storage of heavy and bulky objects and monuments prior to their classification and exhibition.
 - (c) A gallery for the public sale of antiquities not required by the Museum.
2. On the first storey:
 - (d) Galleries for the exhibition of the least ponderous

- objects and of such as require a drier air for their preservation.
- (e) Stores or repositories for the storage of these objects prior to their classification and exhibition.
- (f) A numismatic gallery with its special store or repository.
- (g) Laboratories divided into three or four rooms for the preparation and manipulation of antiquities.
3. On either the ground storey or first storey as may be suitable to the building:
- (h) A library.
- (i) Offices for the administration of the museum, comprising the private room of the director-general and that of the curator; two rooms for the assistant-curators; and five or six rooms for the staff.

Minimum superficies destined to each service. The

making its way up the walls and penetrating the floor of the ground storey. The floor-level of the ground storey must not be below "23.50 mètres" [the official level of the Avenue being "21 mètres"], and must be at least 2 metres above the level of the surrounding land. In addition, perfect ventilation must be secured beneath the floors of the ground storey, either by cellars (*sous-sols*) or otherwise.

On the ground storey the flooring of the Exhibition galleries, of the corridors, and of the stores or repositories must be capable of bearing at every point an excess weight (*surchage*) of 6,000 kilogrammes per square metre; on the first storey the flooring must be calculated to sustain a minimum *surchage* of 750 kilogrammes.

The coefficients of strain demanded for the metals used in building will be, per square millimetre of section:

	Kilogrammes
For iron, tension . . .	7
" steel, tension . . .	11
" cast iron, compression . . .	5

In a general way, all the Exhibition galleries are to be lighted from above. As the light is very bright in Cairo, provision must be made to prevent it being too intense in the galleries and producing a glare detrimental to the effect of the objects exhibited.

About three-fifths of the Exhibition galleries on the ground storey should consist of spacious galleries at least 12 metres wide and 10 metres high, intended for monuments the most important as much on account of their size as of their artistic interest.

The other two-fifths may consist of less spacious galleries 6 to 7 metres high and receiving a less perfect or less direct light; these will contain either objects of but secondary artistic interest, or restorations of tombs completely

closed and lit inside by artificial means.

The stores or repositories both on the ground storey and the first storey are to be arranged so as to be capable of subsequent conversion into Exhibition galleries without requiring much alteration.

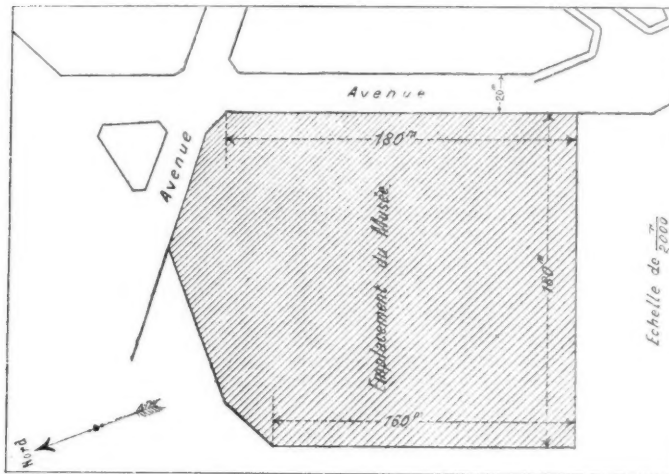
The entrance doors of the stores or repositories on the ground storey must be 4 or 5 metres wide, in order to admit the entrance of bulky objects.

The construction of the entire building must be fire-proof. There must nowhere be wooden floorings; those of the ground storey may be simply in cement, and those of the first storey paved in mosaics or similar materials. Only the offices and laboratories are to be closed by wooden doors. The numismatic gallery, and a gallery on the first floor reserved for jewels and other valuable objects, are to be closed by grilles.

In the dry climate of Cairo the air is frequently laden with a fine dust, which it is a matter of importance to exclude from the Exhibition galleries. The internal ventilation must therefore be devised in such a way as to render the opening of windows and skylights (*lanternes*) unnecessary except for cleaning.

The normal height of the storeys is to be at least 6 metres.

The utmost freedom is permitted to architects with respect to the style of the construction; the interior decoration is to be very simple. The chief object to be aimed at is to have the largest possible surface adapted for the exhibition of the collections, without, however, losing sight



PLAN OF THE SITE FOR THE MUSEUM.

superficial space to be given to each of the component parts enumerated above must equal at least the following figures:—

Exhibition gallery on the ground storey	6000 sq. metres
Ditto on the first storey . . .	3500 "
Stores on the ground storey . . .	1200 "
Ditto on the first storey . . .	600 "
Numismatic gallery with its store . . .	150 "
Laboratories . . .	300 "
Library . . .	150 "
Sale-room . . .	150 "
Offices . . .	500 "

GENERAL INSTRUCTIONS.

The building must be so planned as to be easily capable of enlargement in proportion as the collections increase; it must not contain large internal courts, increasing the surface covered by the building to such an extent as to interfere with its external development within the limits of the site.

It should not be forgotten that the greater number of Egyptian antiquities, including many stone monuments, owe their perfect state of preservation, after thousands of years, solely to the absolute dryness of the places in which they were discovered. Humidity is their greatest enemy. As the soil of the city of Cairo, besides being readily permeable, is but slightly above the level of subterranean infiltrations during the rising of the Nile, special precautions must be taken to prevent such humidity from

of the imposing character which befits a building destined to hold the antique treasures of the Old Egypt.

Nature of the Soil.—The soil of the avenue situated on the east of the museum site is at a level (*la cote d'altitude*) of 21m.000. The level of the subterranean water varies, according to the season, from 14m.000 to 19m.50. The subsoil consists, in the upper part, of a bed of rubbish descending to 16m.000, and below, of an indefinite bed of sand mixed with ooze (*limon*), which is incapable at any point of supporting a load exceeding two kilogrammes per square centimetre. Detailed results of borings made on the site will be supplied on application to the Office of Public works, Cairo.

Expenditure—The sum allowed for the building, such as is shown in the present programme, is £120,000 Egyptian. In no case must the estimate exceed this amount.

The Minister of Public Works,

Cairo, 10 July 1894.

(Signed) H. FAKHRY.

In addition to the above, the pamphlet issued by the Egyptian Minister of Public Works, which may be seen in the Institute Library, gives the current prices of labour and materials in Cairo, and other particulars. It is worthy of note that the Scale to be used for plans and sections is one centimetre to a metre—equivalent, roughly speaking, to an English eighth-scale; and there can be no doubt that British architects will be well advised to use the French measure for all drawings they may submit in this competition. For all practical purposes, the French *mètre* equals three feet three-and-a-half inches English. Excellent paper scales, similar to those with which the French architects work, used to be obtainable from Messrs. Holtzapffel & Co., of Charing Cross, and doubtless are still manufactured by that firm.

* * The Under-Secretary of State for Foreign Affairs, on the 4th inst., forwarded to the Institute twelve printed copies of the following circular:—Her Majesty's Secretary of State for Foreign Affairs has received a copy of the Supplement to the *Egyptian Journal Officiel* containing a statement of the conditions under which architects are invited to compete for the prizes—amounting in all to £E. 1,000—offered for the best and four next best designs for the new Museum of Antiquities at Cairo. This copy of the Programme can be seen at the Commercial Department of the Foreign Office, London, between the hours of 11 A.M. and 6 P.M. It is hoped that additional copies of the Programme will shortly be at the disposal of persons who may decide to compete.

LIBERTY AND PROPERTY DEFENCE.

The report for the year 1893-94 of the Liberty and Property Defence League, recently issued, states that the work of the League, whether measured by its amount or its importance, has shown an unusual increase beyond that of any previous years. The cause of this, it explains, is doubtless due to the relegation of the Irish question into the middle distance of the political field, thus enabling domestic and social reformers of all sorts to occupy the foreground for the exhibition and furtherance of their various schemes of philanthropy and regeneration by Act of Parliament. All the care bestowed upon the Labour Question results in the appearance in Parliament every session of a large number of Bills, each so drafted as to make it seem to the democratic voter that, on the Royal Assent being given thereto, he will, without effort, enter into the enjoyment of a higher standard of living or a lower rate of expenditure at the cost of the landlord, capitalist, and middleman. Such credulity of the working class in face of experience is, under an extended suffrage, at once the obstacle in the way of sound government, and the opportunity of the self-seeking politician, Imperial and local. During the past year there has been a large increase in the demands for the League's leaflets and pamphlets, and in

the requests for the attendance of its lecturers and speakers at meetings. The number of applications from societies and companies federated with the League, and from other bodies outside the federation, for co-operation in withstanding legislation contrary to their interests and to the principles the League was founded to uphold has also greatly risen.

LEGAL.

Continuing to Build after Notice—Penalties.

THE LONDON COUNTY COUNCIL v. WORLEY.

This case came before a Divisional Court on the 3rd inst. It was an appeal by the London County Council against a decision of Mr. Curtis Bennett, a metropolitan police magistrate, refusing to impose penalties under the Metropolitan Management Act, 25 and 26 Vict. c. 102, s. 85, which imposes a penalty of 40s. for every day on which a building is continued of a height exceeding the width of the street, after written notice to reduce it. The ground on which the magistrate had refused to convict was that the proceeding was out of time under section 107, which says that "no person shall be liable for the payment of any penalty or forfeiture unless the complaint has been made before the magistrate within six months after the commission or discovery of the offence." The original offence in the completion of the building above the height allowed (without the licence or leave of the Council) was on the 8th February 1893. The enactment (sec. 85) is—"No building shall be erected on the side of any new street of a less width than 50 feet which shall exceed in height the distance from the front of such building to the opposite side of the street without the consent in writing," &c., "and every person committing any offence under this enactment shall be liable to a penalty of £5, and in case of a continuing offence to a further penalty of 40s. for every day during which such offence shall continue after notice from the Board." In April 1892 there was notice from the Council to the builder that the building would be an offence, and this was received by the owner. In July 1892 the building (which is at Kensington Court) was roofed in, and the wall then was of the prohibited height, and so the offence of erection was completed. In October 1892 there was a penal notice to the builder for the erection of the building above the height limited. In November 1892 there was a summons against the builder for the penalty for the erection of the building. The magistrate doubted whether the case came within the enactment—*i.e.*, whether the building was "erected" on the side of a new street, the front being in an old street and the side of the house in the new street. In June the case came before the Court, and the magistrate was overruled, and in October 1893 there was a conviction for the penalty for the original offence, the erection of the building. In February 1893, the building being completed, the builder withdrew. On 1st March last the Council proceeded against the owner, on a penal notice in December, to recover the penalty of 40s. a day for continuing the building, that is from 23rd December 1893 (the date of the notice) to 7th March 1894. The magistrate thought the proceeding out of time, as being beyond the six months limited by the Act. The magistrate, however, stated a case, on which the Council appealed against his decision.

Mr. Poland, Q.C. (with Mr. Ivory), argued the case for the Council. Mr. Dickens, Q.C. (with Mr. Charles Lloyd), argued it for the owner, contending that a proceeding should have been taken against the owner for the original offence within the six months.

The Court came to the conclusion that the magistrate was wrong, and that the penalties were recoverable.

Mr. Justice Mathew, in giving judgment, said he had tried to discover a doubt in favour of the building owner, but was unable to do so. The construction of the statute was perfectly clear. The offence charged against the

owner was the continuance of the building after the notice, and it seemed to him clear that the penalties were recoverable. The contention was that the offence could only be continued by the party proceeded against for the original offence, the erection of the building; but that was an erroneous view, and the magistrate ought to have imposed the penalties.

Mr. Justice Kennedy concurred, though, he said, not without hesitation.

Case sent back to the magistrate with the direction that he ought to have convicted.

Ancient Lights.

THE DUKE OF DEVONSHIRE AND OTHERS v. BIBBEY.

In the Chancery Division, on the 3rd inst., the plaintiffs, the Peabody Trustees, moved for an interim injunction to restrain the defendant from erecting a building opposite the block of Peabody Buildings erected in February 1874 in Stamford Street, Lambeth, so as to obstruct the ancient lights of the latter buildings. The defendant's old building, erected on a seven-foot strip of land, was originally 17 feet 6 inches in height. This had been pulled down, and the defendant was erecting a building of greater height, not only on the seven-foot strip, but advanced upon an additional strip of 3 feet, with the result that it darkened particularly the ground-floor windows of the Peabody block.

Mr. Marten, Q.C., and Mr. Howard Wright appeared for the plaintiffs; and Mr. Warmington, Q.C., and Mr. Gatey for the defendant.

Mr. Justice Kekewich thought that, on the evidence, a sufficient case had been made out for restraining an interference with the plaintiffs' light by reason of the defendant's building on the three-foot strip. His Lordship did not intend to say anything with regard to the building on the seven-foot strip, except that he did not grant an injunction as to that. Accordingly an injunction would go as to the building on the three-foot strip, but that on the seven-foot strip would not be touched by the present order.

Building Line—Urban Authority—Rejection of Plans.

THOROLD v. THE NORTH ORMESBY LOCAL BOARD.

This case, heard in the Queen's Bench Division on the 9th inst., had reference to the principle upon which the enactment in the Public Health Act 1888, as to the power of local boards with regard to the erection of buildings beyond the front main wall of houses on each side, is to be construed. In the Public Health Act 1888 (51 and 52 Vict. c. 52), section 3, it is provided that it shall not be lawful in any urban district, without the written consent of the urban authority, to erect or bring forward any house or building in any street or any part of it—such building—beyond the front main wall of the house or building on either side thereof in the same street.

In the present case it appeared that the Local Board District of Ormesby has a population of about 9,000, and comprises in its area two places—the village of Ormesby (near Middlesbrough, Yorkshire) which is mainly rural, having a population of about 150, and the town of North Ormesby, with a population of over 8,000. North Ormesby is about two miles from the village, and has sprung into existence within the last forty or fifty years. Ormesby Road is a road leading from Middlesbrough and North Ormesby to the village of Ormesby. Part of it is named Westbourne Grove, and is close to and forms part of North Ormesby, and was treated by the Local Board of Ormesby as one of the streets of that place. Whitehouse Lane commences at a point where North Ormesby as a town ceases, and continues for nearly two miles to the village. The Local Board have for the last sixteen years treated West Terrace and Westbourne Grove as a public street, and have lighted it and watered it. The Local Board have also from time to time served notices upon the frontagers of the street to level and make good the footpath under section 150 of the Public Health Act 1875, and the work

has been done by or charged on the frontagers. The whole of the east side of West Terrace has been built upon some years since, and comprises twenty-two houses. Nearly the whole of the east side of Westbourne Grove is built upon, and comprises villa residences. In November 1893 Thorold built a dwelling-house on the west side of Westbourne Grove, at a distance of 330 feet from Grove Road, setting back the house 26 feet from Westbourne Grove. The house is a small one, and the only approach to it is from Westbourne Grove, with a door leading into the house facing Westbourne Grove. Thorold submitted to the Board plans of four small cottages intended to be erected by him in Westbourne Grove. The plans showed that each cottage had a frontage of 18 feet to Westbourne Grove, and that the front main walls of the cottages would be only 10 feet from Westbourne Grove. The distance between Thorold's residence and the cottages to be erected is about 90 feet, and the intervening space consists of land purchased by him for building. The Local Board were of opinion that the "building line" in that part of Westbourne Grove north of Grove Road was fixed by Thorold's house, the front main wall of which was 26 feet from Westbourne Grove, and believing that it was undesirable to have houses erected in Westbourne Grove in an irregular line they rejected the plans as being in contravention of the above enactment in the Act of 1888. This was an application on behalf of Thorold for a *mandamus* to the board to approve the plans.

Mr. Scott Fox argued on his behalf that the case did not come within the enactment, and that the Board could not act arbitrarily and take away the party's property, which would be the effect of refusing approval of his plans.

Mr. Roskill argued on behalf of the Board that the case came within the terms of the enactment, and that the Board had a discretionary power, and had a right, in the exercise of their discretion, to reject the plans. After a long argument, the Court came to the conclusion that the Board were not justified under the enactment in refusing their approval of the plans. Mr. Justice Mathew, in giving judgment, said:—Each case must be determined on its own circumstances, and the enactment must be construed reasonably. When it is proposed virtually to take away a man's land we are bound to look carefully into the circumstances. It appears that Thorold had built himself a house in a certain line, and now proposes to build four cottages at a distance of 90 yards in the same road, the front walls of which project slightly beyond that line. Where there is no continuous line of building of any kind the enactment can hardly apply. Where land is laid out for building purposes it may be different. But we have to deal with the case as it stands. A house has been erected, and buildings are proposed on the opposite side of the road. Why are they objected to? To that there is no answer but that the Board are entitled to exercise a discretion—which, however, turns out to be caprice—to say how under such circumstances the buildings on the opposite side shall be used. It appears to me that there is no evidence of the existence on the side of the original building of any line of frontage.

Mr. Justice Kennedy concurred.

Rule absolute for a *mandamus* to the Board to approve the plans.

PALLADIO.

A Student's Appreciation of his Work.*

The peculiar characteristics of Palladio, which may be derived from the examination of his works and the perusal of his treatise, as a whole and in detail, are:—

* An abstract of a portion of Mr. Wyatt Papworth's Prize Essay of 1849. The original MS. is in the Library, and the same, revised and corrected, was published in the *TRANSACTIONS*, 1851-52.

An arrangement of Plan, suitable to the customs and habits of the nobility of the Venetian territory, generally displaying great convenience and accommodation (according to the rank of his patron) by the disposal of the household offices, either in the house under the principal apartments, or outside, communicating with it by covered colonnades, open at one of the sides only. The disposition of the apartments is managed with great regard to their correspondence and proportion to each other on each side of the vestibules and saloons (a matter not so observable in his contemporaries), and more particularly so in his designs for *irregular situations*.

An arrangement and decoration of the façade pre-eminently adapted to the Order selected and the class of edifice, and in conformity with the purpose of a town or a country-house, a basilica, or a church. Some of his most noble effects are obtained by the novel introduction and happy employment of two Orders; the one on a scale comprehending the entire height of the edifice, the other subordinate, comprehending about two-thirds of that height; in every case but that of S. Giorgio both Orders rise from the same level, and in his grandest and noblest building they are placed only on a small plinth, otherwise they are mounted on a high pedestal or stylobate. This principle of the double Order had been employed by the ancients in the adjustment of side porticos to the temples, as Palladio displays in his restorations of them; it was also used in the Propylæa at Athens, in which, the subordinate being 10, the principal is 15; amongst his own works, in the Casa del Capitano, it is as 10 to 16; the same in the Basilica; in the Casa Valmarana, as 10 to 20. To this principle, says Mr. Cockerell, a great part of the secret of Palladio's magnificence may be attributed.

Another marked distinction in his designs from those of the preceding age is the almost constant application of a pediment to the central part of the principal façade, and also to the ends of his colonnades, as a finish for the roof. "In all the houses," says he, "which I have built in the country, and also in some (very few) of those which I have made in towns, I have always placed a pediment where the chief entrance is, because it makes the principal entry to the house more conspicuous, and contributes very much to the magnificence and grandeur of the building. This gives the entrance façade a great advantage over the others, as it must for that reason be made higher; besides, it is much more proper to put the arms of the owner there, and they are generally placed in the middle of the pediment." The height is made to vary from one-fourth to one-sixth of the length of the horizontal cornice, and to depend inversely on the number of columns below it; a modification which renders the height nearly proportional to that of the building itself. At the Villa Pojana (as one example) we see a sad departure from ancient rules, in the want of the continuation of the horizontal cornice that should connect the lower extremities of the inclined mouldings; a defect which has been too often followed by his copyists.

Palladio scarcely ever repeated himself in any of his numerous compositions; he had at his disposal all the means, all the combinations which the elementary parts of Architecture could furnish, and he had the art of moulding them to his use, without ever exceeding the just medium which the art permits. His Orders are elegant, and he did not scruple to vary the proportions of an Order according to the nature of the building to which it was to be applied; he generally made the heights of his columns, when used in a particular storey only, equal to the width of his principal rooms—a circumstance probably accidental, but which might have suggested itself from the rule established by Vitruvius in the case of a circular temple, for making the heights of the column equal to the width of the cell: Palladio adapted the Composite and Corinthian Orders to enclose two storeys of apartment.

Palladio left the columns and pilasters plain when used at the ends of porticos, and most of the School have followed his example: he was generally particular in applying a single Order to each storey it was intended to decorate, though in large buildings he had no objection to introduce, at the angles, a tier of mezzanine windows, occupying perhaps four storeys in height: the large Orders he retained for his entrance halls and courts, with small pilasters behind them to carry the floor of the gallery; his favourite display of the Orders seems to be the Doric and Ionic; then the Ionic; and thirdly, Ionic and Corinthian. Of the first, the Chiericato Palace affords a good example; the second appears mostly in the porticos to the country houses; the third is shown in the house at Udine. He also used the Ionic alone with good effect on a rustic basement; and in the same way, the Corinthian. The upper Orders are sometimes placed on pedestals and sometimes not, and the pedestals are as often found without plinths, both arrangements seeming to depend upon the position of the windows and the height of the storey. The lower columns were placed upon plinths or surbasements; the larger Orders generally upon pedestals, to give additional height to them.

In his grandest works, the entablature is generally proportioned to the Order and unbroken, but in many fine specimens by him there are instances of happy effects obtained by the use of it broken by the projection of the columns. In the members of the cornice he never lost sight of the character of the Order employed; when used only as a crowning feature, he adapted it skillfully to the general character of the building; he was extremely particular in the adjustment of the profiles; the architraves were rarely sculptured; the friezes were too often made swelling; which method, however, in an entablature where little decoration is introduced, and on a small scale, as in windows and doors, may have a good effect, and may occasionally be permitted. In most instances he left the frieze plain, but when it was decorated the ornament used was not of a very elegant description; the upper ornaments (in the cornice) were always carefully centred over each other. The pedestals were never decorated with panels, sunk or raised. His doors, windows, and niches were composed with great simplicity, and he introduced them in fewer numbers and of a larger size than usual in buildings of the time; their architraves were generally broken at the top after the ancient manner—a method which has been carried somewhat to excess by his many imitators and copyists; the pediments he used alternately angular and circular, but never broken. In his arcades, he employed a simple semicircular arch resting on piers, in conjunction with the trabeated arrangement adopted from the ancient baths; or else he divided the interval between the two piers into three parts by small piers or columns, with an arch only covering the central aperture; a combination which seems to have been copied from some of the colonnades of Diocletian's Palace. The domes which he erected are almost invariably hemispherical.

No one has employed rustic work with more taste and with more reserve; under the influence of his judgment we can consider it a means of opposition, which gives value to the blank parts of the edifice, and causes the elegance of the columns and their ornaments to appear with greater brilliancy. At the same time that it shows, with more or less energy, the character of each kind of edifice, it has the advantage of giving an air of grandeur to the building; but then it was not made use of by him to that excess (as at Florence), which only seems to agree with walls of fortresses and prisons. By his management of its varieties he produced an agreeable combination between the general mass and the detail, so that the spectator finds in these varieties as many beauties, if not more, than in any other style, although the style itself seems to have less to spare than any other.

